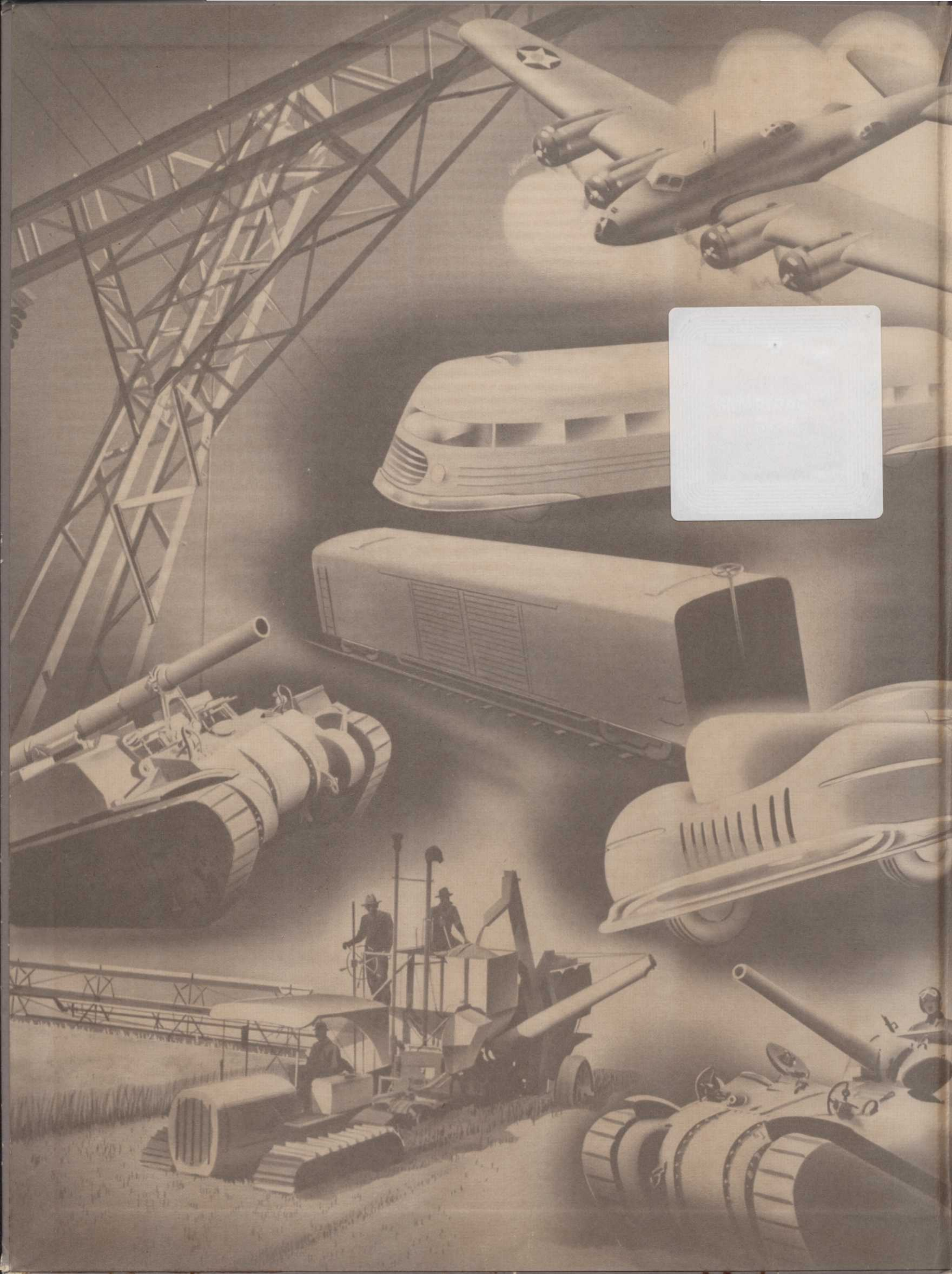




50
YEARS

INLAND
STEEL





INLAND STEEL COMPANY

WORKS:
INDIANA HARBOR, IND.
CHICAGO HEIGHTS, ILL.

THIRTY EIGHT SOUTH DEARBORN STREET

CHICAGO

December 15, 1943

To All Employees

This is the Fiftieth Anniversary of our Company. To mark the event we have prepared the book, "50 Years of Inland Steel", and copy is presented to you with sincere best wishes of Inland Management. We hope you will enjoy this informal story of Inland in words and pictures and believe that through it you will gain a better understanding of the organization of which you are a part.

We all may be inclined to think of Inland only in terms of what it is today, and fail to remember or understand that it was once a small company, struggling for its very existence ... that it was begun in time of depression by a small group of far-sighted and determined men, and only through the persevering effort of these and other men, in good times and bad, has the company grown to its present high position in American industry.

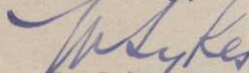
Over the past 50 years, Inland has provided livelihood for many thousands of workers and their families, paying out more than six-hundred million dollars in wages and salaries. It has contributed more than one-hundred-forty million dollars in taxes toward the support of our government, our schools and other public benefits. Inland has returned millions of dollars to stockholders -- many of whom are also Inland workers.

The steel we have produced has played an important part in the development of our country. It has helped speed transportation ... push up huge skyscrapers ... lighten the work of the housewife ... make possible our higher standard of living.

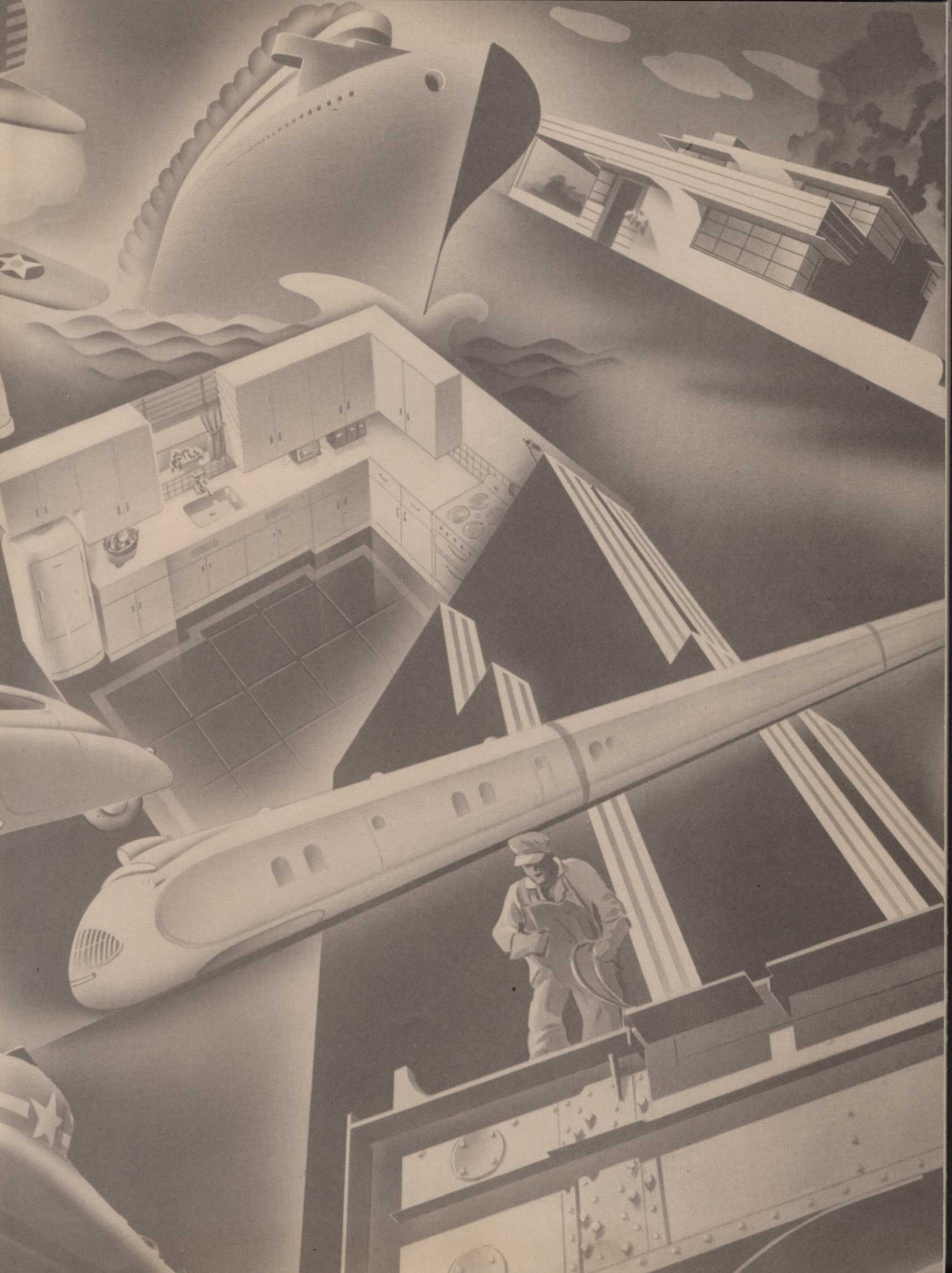
But at no time in history has Inland contributed more to the welfare of our country than now. We Inland workers are producing millions of tons of vital steel, which is helping to give our fighting forces superiority over the enemies of freedom. And as loyal Americans, we will each continue to do everything within our power to make certain that our men get the fighting equipment they need.

While producing at maximum capacity now for the war effort, we can all look and plan ahead toward our full part in an even greater America of tomorrow. Our Fiftieth Anniversary does not mark a culmination, but rather a milestone in our development and in our service to America.

Sincerely,


W. Sykes
President

A N N I V **50TH** S A R Y



50

Y E A R S

of

INLAND STEEL



1893

1943



LAKE COUNTY PUBLIC LIBRARY

The FOUNDERS OF INLAND STEEL


JOSEPH BLOCK
JOSEPH E. PORTER

GEORGE H. JONES
PHILIP D. BLOCK

WILLIAM M. ADAMS
FRANK WELLS

ELIAS COLBERT
JOHN W. THOMAS

THE OFFICERS THROUGH 50 YEARS OF INLAND STEEL

Chairmen of the Board of Directors

ALEXIS W. THOMPSON
Oct. 29, 1906—Apr. 9, 1908

L. E. BLOCK
July 29, 1919—Apr. 30, 1940

EDWARD L. RYERSON
Apr. 30, 1940—
(V.-Ch., 1935-1940)

Presidents

JOSEPH E. PORTER
Nov. 10, 1893—July 12, 1898

GEORGE H. JONES
July 12, 1898—Sept. 17, 1906

CHARLES HART
Sept. 17, 1906—Apr. 9, 1908

ALEXIS W. THOMPSON
Apr. 9, 1908—July 29, 1919

P. D. BLOCK
July 29, 1919—Apr. 30, 1941

WILFRED SYKES Apr. 30, 1941—

Vice-Presidents

GEORGE H. JONES . . . 1893-1898

L. E. BLOCK 1898-1919

P. D. BLOCK 1901-1919

R. J. BEATTY 1903-1919

GEORGE H. JONES . . . 1906-1922

E. M. ADAMS 1919-1935

H. C. JONES 1919-1923

E. J. BLOCK 1919-1939

J. W. LEES 1921-1932

W. C. CARROLL 1922-1927

C. R. ROBINSON 1922-1936

H. H. STRAUS 1927—

J. L. BLOCK 1929—

A. C. ROETH 1929—

F. R. MEYER, JR. . . . 1929—

CLARENCE B. RANDALL . 1930—

W. J. HAMMOND 1935—

A. C. ADAMS 1938-1939

L. B. BLOCK 1939—

JAMES H. WALSH . . . 1941—

Assistants to the President

DAVID P. THOMPSON . 1924-1930

WILFRED SYKES . . . 1930-1941

Chairmen, Executive Committee

L. E. BLOCK 1940-1941

P. D. BLOCK 1941-1942

Chairman, Finance Committee

L. E. BLOCK 1941—

Treasurers

P. D. BLOCK 1893-1909

L. E. BLOCK 1909-1919

W. D. TRUESDALE . . . 1919—

Secretaries

WILLIAM M. ADAMS . 1893-1895

J. H. PORTER 1895-1901

J. M. BUTLER 1901-1902

A. S. HOOK 1902-1907

E. M. ADAMS 1907-1922

W. D. TRUESDALE . . . 1922-1931

J. H. MORRIS 1931—

FOREWORD

This is a story of growth. It is a story of daring, too. For the men who founded the Inland Steel Company in the midst of a bad depression had more nerve than capital. But they had faith, too; and vision, and courage, and the capacity to work and plan. Behind the story of the growth of Inland Steel is the story of the men who risked their time and their resources to build the company.

Men like George H. Jones, for example. He was a salesman, and a good one. But he quit his job to join a new and risky venture. Through the years his ingenuity and integrity were to contribute a noteworthy share to the building of Inland.

Then there was Joseph Block. He was already successful, back in 1893. But he saw his chance to build a new enterprise. He put up most of the money. He brought to Inland rare sagacity, wise advice which guided Inland straight ahead in those early days. And he brought three sons.

There was P. D. Block. Not much more than a youngster, in those early days. But a hard worker. And a smart one. As the first treasurer and works manager at Chicago Heights he learned the secret of successful operation. His dynamic energy provided a progressive force for Inland for 49 years, until his death in 1942. When he died he had served Inland well as president for 22 years.

There was E. J. Block, who joined Inland in 1901, and grew in stature with the company until his death in 1939. He became vice-president in charge of purchases, and his genial warmth of personality won him friends throughout the Inland organization, and throughout the steel industry.

L. E. Block, chairman of the board from 1919 to 1940, and now a director and chairman of the Finance Committee, joined Inland in 1897. Wise in management and in sales, he has contributed to Inland's growth most notably in the field of finance. His is the financial mind which has helped Inland weather hard times, again and again, which has raised money needed for improvements and expansions.

These men had the knack of working together. And of working with other men and instilling loyalty. They, and the men gathered around them, built Inland . . . built so well that Inland early attained a position of leadership in an industry that has served as the tough, metal core of American strength. An industry that has helped make possible this nation's higher standards, not only of living, but of achievement. An industry that has helped provide the American farm and home and factory with better merchandise and better machinery. All that, in time of peace. Now, in war, the steel industry has dedicated its peace-built power to Victory.

I have tried to tell the story of Inland's first fifty years on the pages that follow. This story, because it is a story of achievement, constitutes a tribute to the men who built Inland . . . their faith, their courage, their steadfastness, their vision. But the real and lasting tribute to those men lives and moves today and every day in the swift pageant of production . . . the steady, relentless flow from ore mine to finished steel.

WAYDE GRINSTEAD





PAUL GERDING

THE STORY OF INLAND STEEL

How a small business was founded . . . and grew in service to America



THE YEAR was 1893, and it was a bad one. Discontent stormed through the land. The Democrats blamed the Republicans. The Republicans blamed the Democrats. The farmers blamed the bankers. And the bankers blamed each other.

Money was scarce, and there were many who sincerely thought that opportunity for progress had fled, never to return again.

Among the many companies which failed in 1893 was one known as the Chicago Steel Works, which had done a reasonably good business at one time slitting used steel rails into head, web, and flange, and from them manufacturing harrow teeth and other farm machinery attach-

ments. The grounds and the plant of the concern were lost, but Ross Buckingham, brother of the Chicago Steel Works' former president, raised enough money to buy the antiquated machinery. He started looking for a new location. He found one, at Chicago Heights, 27 miles south of what were then the Chicago city limits.

The Chicago Heights Land Association wanted new industry, offered Buckingham six acres of land for plant, and \$20,000 for buildings. He accepted, promptly. The machinery of the defunct steel company was dismantled, loaded on 40 freight cars, and despatched to Chicago Heights from its Noble Street location in Chicago.

But the panic of '93 kept getting worse. Buckingham's backers refused any further support for his venture and wrote it off as a loss. Nowhere could Buckingham get the capital he needed, not even enough to pay the demurrage charges which were mounting daily.

◻ White hot from the soaking pit, an ingot—weighing from four to ten tons—gets its first rolling in a blooming mill . . . is pushed and squeezed through giant rolls, back and forth, under tons of pressure . . . emerges longer and thinner, as bloom, slab, or billet.

So there sat 40 carloads of second hand machinery, on a railroad siding.

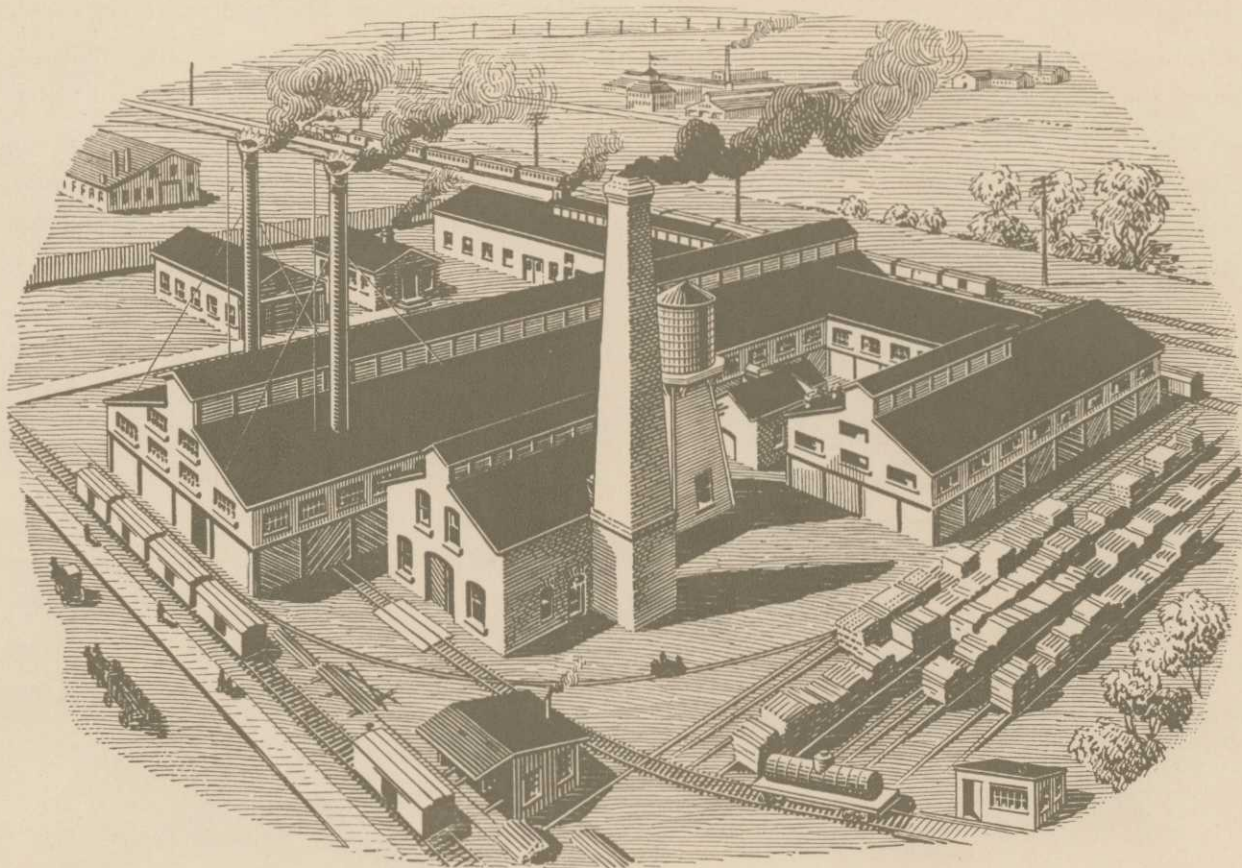
One of the many relatives and friends to whom Ross Buckingham had appealed for financial help had been his cousin, Clarence Buckingham, who had advised him to forget the whole thing and take his loss. But Clarence Buckingham's secretary, young William M. Adams, thought there might be some possibilities for profitable production in the machinery now rusting forlornly away. He mentioned it to a neighbor, George H. Jones, then sales manager for S. D. Kimbark and Company, wholesale hardware jobbers. Jones was interested, and enlisted the aid of his father-in-law, Elias Colbert. In a few days Joseph E. Porter, farm implement manufacturer and dealer of Ottawa, Illinois, promised his financial support if sufficient other capital could be raised to put the machinery to work. John W. Thomas, who had been foreman in the Chicago Steel Works until it closed, also promised to help return the old machinery to production.

But all their combined funds were not enough to do the job. And no more capital could be found. Fear, and uncertainty, and gloom had sealed many a purse.

It happened that the one bright spot in a discouraged nation was the Chicago World's Fair, which had opened, a year late, to celebrate the four-hundredth anniversary of the discovery of America. Princes and paupers came to Chicago to marvel at the unforgettable architecture of the White City. And of Little Egypt.

Joseph Block brought his family from Cincinnati to see the wonders of the Columbian Exposition. He was an iron merchant, senior partner and general manager of the Block-Pollak Iron Company. His firm had supplied the old Chicago Steel Works with rails. Jones met him, talked to him, sketched the prospects for the future that could be realized if the old mill machinery were put back to work. Joseph Block was convinced, and agreed to propose that his firm put up part of the necessary capital.

Original plant of Inland Steel Co. at Chicago Heights, established in 1893 to slit and re-roll used steel rails.





What started at Chicago Heights grew to this, and more, in fifty years. Aerial view of Inland's Indiana Harbor works.

But his associates were not interested. Times were bad. They did not want to sink capital in a rolling-mill venture which had already failed.

The Launching and the Course

So Joseph Block decided to go in independently, and to bring his son, 22-year-old Philip D. Block, into the new enterprise with him.

The Inland Steel Company was incorporated October 30, 1893.

Eleven days later, November 10, the eight men who dared to flaunt their courage and risk their capital in the midst of a depression met in a Dearborn Street office. They had subscribed to 1300 shares in the new company as follows:

<i>Stockholder</i>	<i>Shares Subscribed</i>
JOSEPH BLOCK	300
PHILIP D. BLOCK	200
GEORGE H. JONES	200
JOSEPH E. PORTER	200
WILLIAM M. ADAMS	150
ELIAS COLBERT	100
FRANK WELLS	100
JOHN W. THOMAS	50

Only \$65,000 in actual cash was raised when Inland started. And much of that was borrowed.

All of the stockholders, except John W. Thomas, were made members of the board of directors. And the directors elected officers and established salaries:

<i>President</i>	JOSEPH E. PORTER .	None
<i>Vice-President</i>	GEORGE H. JONES .	None
<i>General Sales Agent</i> .	GEORGE H. JONES .	\$300



Nerve center of a steel plant . . . Inland's six-story office building at Indiana Harbor. Completed in 1930, the building houses production, purchasing, engineering, traffic, auditing, and payroll departments.

Secretary	WILLIAM M. ADAMS	\$250
<i>Treasurer and Plant</i>		
Manager	PHILIP D. BLOCK	\$200
Purchasing Agent . .	JOSEPH BLOCK	None
Superintendent . .	JOHN W. THOMAS	\$300

They bought the old machinery for \$8,800. That would just about buy one backing-up roll for one of Inland's present-day continuous mills.

And they took over the contract under which the Chicago Heights Land Association would provide land, and money for buildings.

Then they went to work. And when they went to work the Inland Steel Company started to grow: a steady, sturdy growth that within 20 years was to make Inland a leader in America's steel industry.

While the buildings for the new plant were being put up, while the machinery was being installed, Jones went out to rustle orders.

It wasn't easy. Farm prices had hit bottom, farmers were angry, and farmers weren't buying. But by the time Inland started producing, January 16, 1894, Jones had built up a backlog of orders for 3,000 tons of bars and shapes, enough for six months of production, if all went well.

All didn't go well. Power for the slitting of the rails into head, web, and flange, was provided by two small boilers. One was supposed to produce 250 horsepower, the other 300. They fed steam to a single belt drive engine, which operated the mill, after a fashion. Every day the wornout engine huffed and puffed to a standstill



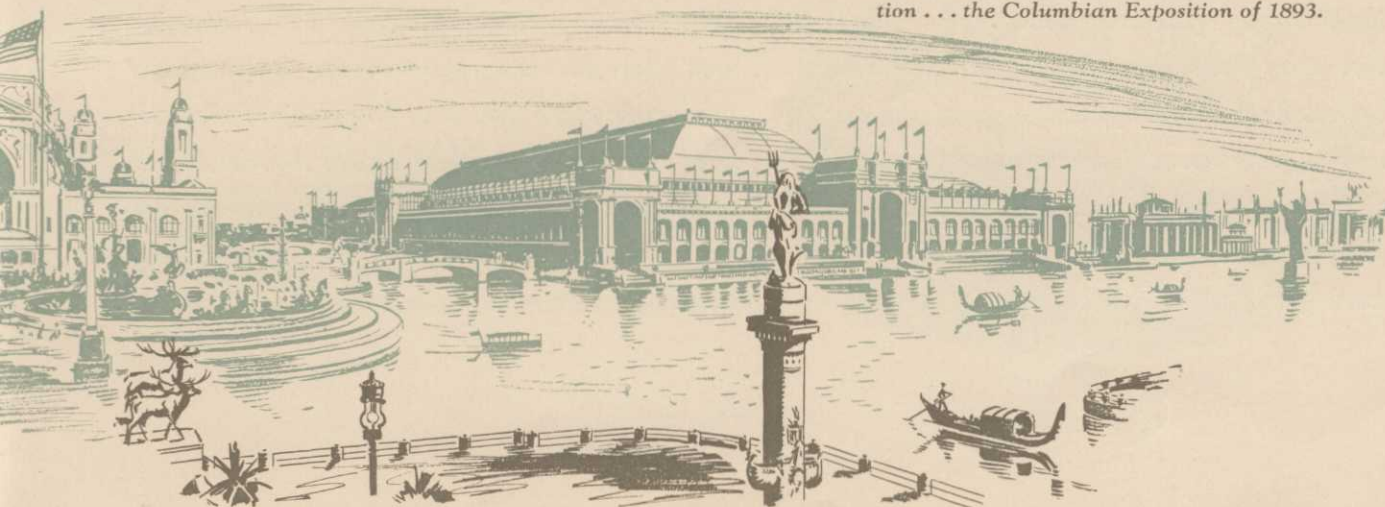
Little Egypt—and the dance she did—shocked the Midway fifty years ago.

because it could not maintain steam pressure. And nearly every week-end boilermakers were called in from Chicago to put a new plate or fire-box in the boilers so the mill could start again the following Monday. P. D. Block saw his small Chicago Heights hotel room seldom in those days. He was busy day and night helping the men at the mill put patches on the patches of the patched-up machinery.

And hard times got harder, during those early bleak months of 1894. The officers did not dare draw their salaries. The backlog dropped to 27 tons at one time, and Inland was forced to lay off employees. It seemed that Inland, like its engine, might run out of steam because it had tackled too big a job.

But somehow the mill turned out 1900 tons of finished products the first six months of 1894.

An architect's dream, a world's inspiration . . . the Columbian Exposition of 1893.





Construction work on an early Inland blooming mill. Such constant growth, continuous expansion, has kept workers busy at Inland even during years of depression.

This provided an average five-day week for the workmen. During the last half of the year conditions improved, employees enjoyed full-time jobs, and enough was left over for a dividend, after payment of \$55,000 in wages.

The calamity howlers did a lot of moaning in 1894. Coxey's army marched into Washington 20,000 strong, grumbling and hungry. The Populist party boiled up out of agricultural unrest. Something was wrong, said some of the critics, with a government that was so desperate it had to issue fifty whole millions of dollars in ten year, five percent bonds. Railroads by the dozen were going under. What would solve every-

thing, according to a young man named Bryan, would be free and unlimited coinage of silver at a ratio of 16 to 1. Japan gave a sample of her honorable intentions by attacking China, winning, and getting Formosa as a prize. In a few short years the men of science and industry had developed such things as the electric light, the linotype, the electric street railway, the skyscraper, acetylene gas, the adding machine, photographic film, the halftone process, the automatic light switch, pneumatic bicycle tires, carborundum, the addressograph. Now America was producing more steel than England. While philosophers and fakirs tinkered with theories, a few quiet men were tinkering with a new-fangled contraption called the automobile, which would certainly never replace the horse.



Inland's first stockholders' report reads:

TO THE BOARD OF DIRECTORS
AND STOCKHOLDERS:

The president wishes to congratulate you as stockholders in the Inland Steel Company enterprise, that it has not turned out, like many other stock enterprises, a failure, but on the contrary it has proved a fair and good investment. With all our disappointments and disadvantages in getting started, and errors, we are able to report a fair profit, and recommend that a dividend of three per cent be declared on the stock, in cash, and that the remainder of the profit be placed as a sinking fund or improvement fund.

One of the improvements I recommend is the placing of shears at once to cut off the rails to (required) lengths, instead of doing it by several laborers, which I think has been very expensive. I would recommend the utilizing of the heat that

passes up and out of our stacks. I think if proper boilers could be placed around them, that that would furnish power at a great deal less cost than we are now obtaining. I would also recommend the surrounding of our works with a good substantial fence.

I wish you continued success and a large increase in the business, which I think we will have.

J. H. PORTER,
President

July 17, 1894

Mark that three per cent dividend, and mark it well. For it is the first bearing on the course which Inland followed, straight and true, through the years. At the next annual meeting William M. Adams suggested a five per cent dividend, for which there were enough profits. After extensive argument, Porter and Wells sided with him. But the two Blocks, and Colbert, and Jones held out steadfastly for the policy of taking a smaller dividend and plowing the rest of the profits back. The profits were plowed back.

Adams resigned and was replaced, as secretary, by his assistant, J. H. "Jack" Porter, son of the president. J. W. Thomas took Adams' place on the board. And Adams' 150 shares of stock were sold to L. E. Block, oldest son of Joseph and

Sand from the bottom of Lake Michigan becomes "made" land, on which most of Inland's Plant No. 2 is built.



partner in the Pittsburgh firm of Dreyfus, Block and Company.

Growing Sales Bring Plant Expansion

Business got better: slowly and haltingly, for the nation; rapidly, for Inland. More and more steel from Inland was helping break the sod and till the soil of the middle-west's great food empire. And an Inland innovation—the use of light, tough angles rolled from rail web, instead of heavy, cumbersome cast or wrought iron—was revolutionizing the manufacture of metal beds. These new side rails for beds alone increased Inland's sales more than 75 per cent in a year and a half.

Most of the money made went, not into the pockets of stockholders, but into increasing production. New straightening machines, new rolls, new boilers . . . a siding to connect with the tracks of the Elgin, Joliet and Eastern Railway . . . a telephone system for the mill.

This was merely the beginning of a trend which was to continue throughout Inland's growth: constant increase in the amount of capital invested per employee. As Inland workers have received more tools, better tools, with which to work, their incomes have steadily risen. Today the capital invested—money which someone has worked for, and saved up, and risked against

possibility of loss—amounts to around \$11,000 per employee. That's about ten times as much as the capital invested per employee in 1894. What it amounts to is that today the Inland employee is working with an \$11,000 set of tools, provided by the stockholders.

The machinery Inland added during those early years was makeshift. Much of it was home made, constructed right in the plant. Much of it was second-hand, like the eight-inch mill installed in 1896 to roll quarter-inch round bars. The power came from an old high-speed steam engine P. D. Block ran across lying idle in the Chicago City Hall. The rolls and other equipment were gathered from four separate places. The parts didn't fit, and the engine was too big, but the patience and perseverance of Thomas and his men made it work.

By 1897 Inland had grown to a point where its payroll was more than \$90,000. Sales were good, and, despite a slump in steel prices, topped \$350,000. So when P. D. Block heard that the East Chicago Iron and Forge Company was to be sold at sheriff's auction he investigated, and reported that the works might be put into shape

●
The "steam cars" were noisy and slow, fifty years ago. Now America moves fast . . . because of steel. On rails, on highways, on water, and in the sky . . . Inland steel speeds transportation. □







At Wheelwright, Ky., Inland has developed a model coal mine and a model community. From the tippie shown above comes ideal coking coal to provide coke for Inland blast furnaces, and vital chemicals as by-products.

Below: Inland Lime and Stone Co. at Port Inland on upper Lake Michigan, supplies crushed, graded, and washed limestone of unusual purity, which is loaded, at 3000 tons per hour, into blast-furnace-bound lake freighters.



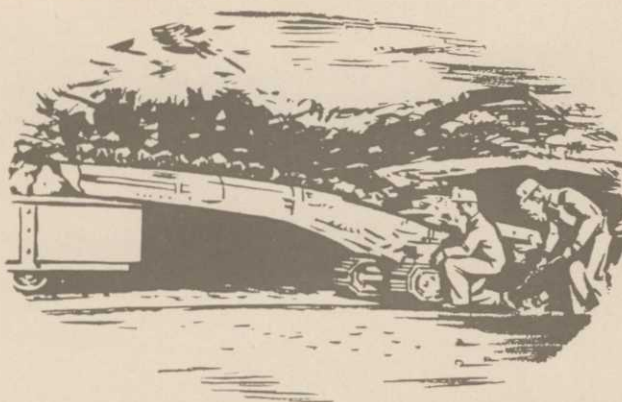
and operated profitably. But the Blocks and Jones did not have sufficient cash. They obtained additional funds and P. D. Block bid the property in at \$50,000.

The new plant started out as a white elephant. Employees were dissatisfied, for under previous management they had been paid partly with wages, partly with promises. Equipment was run down. And the price of bar iron had skidded down to one cent per pound.

L. E. Block was persuaded to dissolve his Pittsburgh partnership in Dreyfus, Block and Company and come to Chicago to manage the new works, now incorporated as Inland Iron and Forge, and owned and operated independently of Inland Steel Company.

Machinery in the new property consisted of four double-puddling furnaces, one muck-bar mill, three finishing mills, and three hammers;

During Inland's early years in the old Chicago Heights plant time out for repairs was common. Many hours were spent patching up the patched-up machinery.



Loading coal by machinery, underground at the Wheelwright mine. Such mechanization has more than tripled output since Inland acquired the mine in 1930.

principal products were forged axles and other related railway equipment. The characteristic Inland drive for improvement took hold. By 1901, when Inland Iron and Forge was sold for *ten times* its purchase price, furnace capacity had been more than quadrupled, the three hammers increased to five, and the mills had been increased to six. Annual capacity had grown from twenty-five thousand to seventy thousand tons of rolled and hammered iron.





The wondrous Mesaba range, unworked until 1891, turned out to be the world's greatest source of iron ore. In 1942, to meet increased wartime demands, Inland added to its Mesaba properties by opening the Atkins mine, above.

The Nineties had earned the name of *The Mauve Decade*, they had been gay; but, said some, for only a few. Like the Bradley Martins, who entertained at a ball which cost \$392,000. Cuba, seething for years, had revolted, the battleship *Maine* had gone up in smoke, and the United States had gone to war with Spain. Admiral Dewey became a hero overnight by winning the battle of Manila Bay without losing a man. The *Oregon* raced around the Horn and the

U. S. Navy scored again at Santiago. The lusty United States had won a small war, and had demonstrated a power that brought respect and envy abroad. The power brought responsibility, too, for the United States now had to look after the administration of an island empire—Puerto Rico, Hawaii, and the Philippines. Leonard Wood was supervising the establishment of self-government in Cuba, under the guidance of wise and far-sighted Elihu Root, then Secretary of War. All this was imperialism, cried the shouters, and it was wrong. For the first time the United States passed England in the production of open-hearth steel. But two-thirds of the steel made in America was still Bessemer. A few patient, persever-

ing, quiet heroes, under the leadership of Dr. Walter Reed, were starting to win a war against yellow fever.

Inland was doing well when the Twentieth Century started. Sales at Chicago Heights and in East Chicago were on the upgrade. Annual payroll had topped \$150,000, and taxes had risen to more than \$1,800. But what had been done was as nothing compared to the plans for the future being formed by the men of Inland.

The Lake Michigan Land Company was offering fifty acres of barren, windswept sand dunes at what is now Indiana Harbor as bait to induce a steel company to build an open hearth plant. This plot of land lay at the very southern tip of Lake Michigan, 15 miles east and north of Chicago Heights. But there was one condition, and it was a big one for Inland: title to the fifty acres would be transferred only after the expenditure of one million dollars in open hearth equipment.

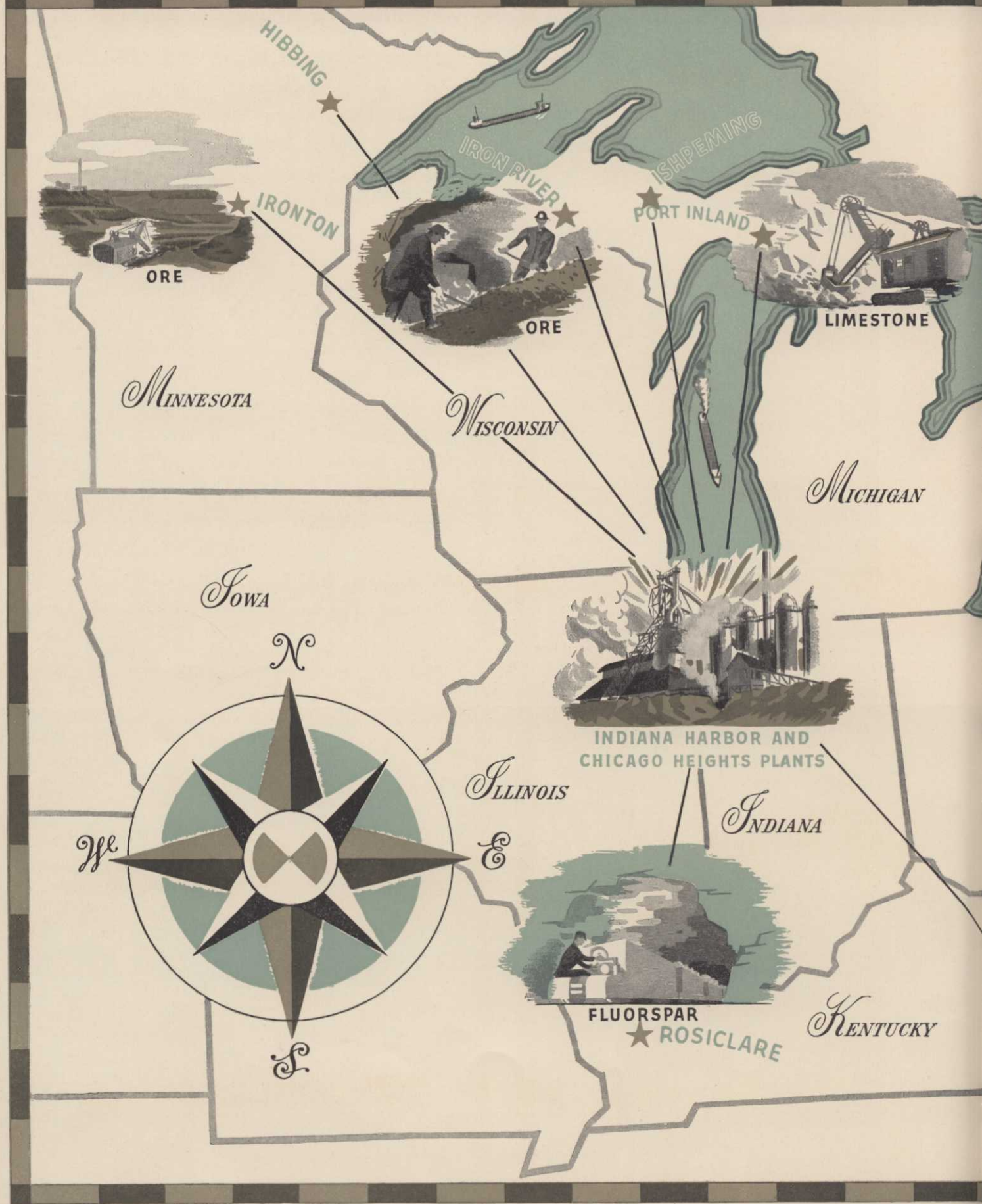
Many different types of ores are blended for the blast furnace charge. Here ore is dug 1000 or more feet underground at Inland's Sherwood mine in northern Michigan.

How the Million Was Raised

It was a time of mergers. The founders of Inland were urged to sell all their holdings for a good figure. They could have retired. Some of the wisest men in the steel industry were saying that mergers had throttled competition. They were saying that combinations in the steel industry had such complete control of raw materials and of markets that an independent like Inland did not have a chance. And they laughed at big-time steel-man Schwab, at the turn of the century, for predicting that American steel production, then a little over 11 million tons, might someday reach 40 million.

But the men of Inland were builders, and here was a fifty-acre patch of sand dunes to build on. It was near the railroads—the Chicago, Lake Shore & Eastern, the Lake Shore & Michigan Southern, the Chicago, Indiana & Southern, the Pennsylvania, and the B. & O. And it was near the lake. The lake was placid, whispering and shimmering in the sun. Or it was sullen, lashing back with foam-capped fangs at the ashen,







Inland's Producing Properties

Inland's complete integration is demonstrated by map at left, showing location and extent of Inland producing properties. First step in attaining control over sources of raw material supply was taken in 1906, with the purchase of the lease of the Laura iron ore mine at Hibbing on the Mesaba range in northern Minnesota. Now ore for Inland blast furnaces is shipped on Inland ore boats from Inland mines on the Mesaba and Cuyuna ranges in Minnesota, and the Marquette and Menominee ranges in Michigan.

Limestone is quarried by the Inland Lime and Stone Company at Port Inland on upper Lake Michigan, and is crushed, graded, and washed in one of the world's most modern preparation plants. In both the blast furnaces and open hearths, limestone acts as a flux to absorb and carry off impurities. Outside the steel industry Inland limestone is used for various chemical and construction purposes.

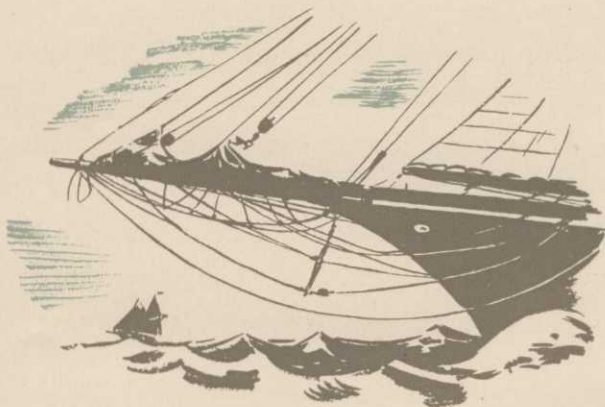
Nearly a ton of coke goes into the making of every ton of blast furnace pig iron. Inland's major supply of coal for the manufacture of coke and important by-products comes from Inland's model mine at Wheelwright, Kentucky. The Wheelwright mine produces more than 6,500 tons of coal—enough to fill a train of 120 coal cars—every day.

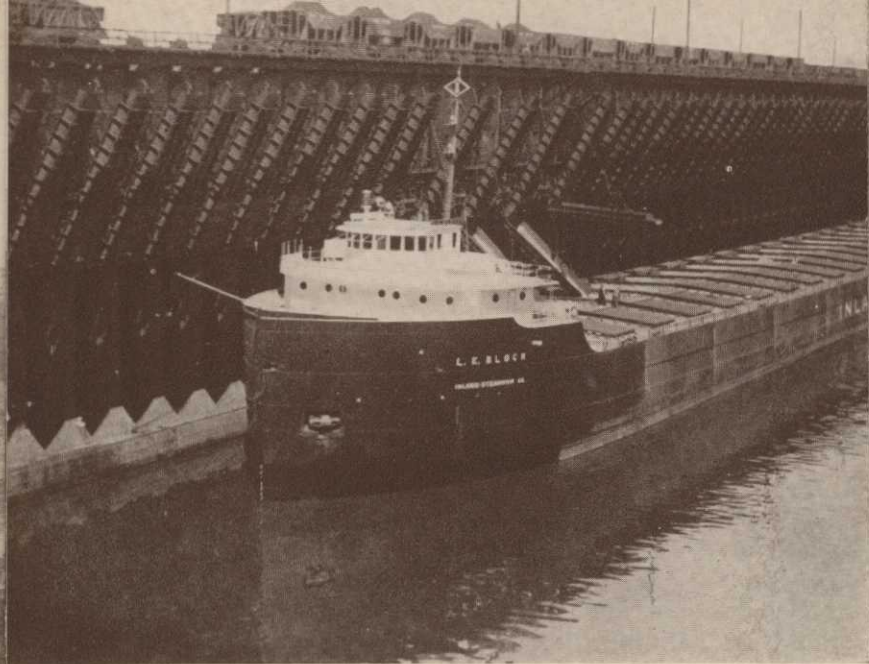
Fluorspar, important as a flux in making steel, comes from Inland's newly acquired mine at Rosiclare in southern Illinois.

Inland's fleet of ore freighters solves a major problem of transport in hauling Inland ore, coal and limestone to Indiana Harbor.

Integrated in production, with steel plants close to sources of supply and with local executive offices, Inland has developed speed of action and flexibility of operation that is unequalled in the industry.

The brig Columbia in 1855 carried the first iron ore cargo through the Sault Ste. Marie canal. The Soo now handles more traffic than the Panama and Suez canals combined.





Blended ores shoot by gravity into the holds of Inland freighters from mammoth Lake Superior loading docks.

At Indiana Harbor giant clam-buckets dip into the ships' holds, lift tons of ore, transport it along huge bridges, drop it into storage piles close by the blast furnaces. □

angry sky. But it was water, in plenty. Water for the swift and economical transportation of ore, of coal, of limestone, and for mill operation, where hundreds of tons of water are used for every ton of steel produced.

Inland didn't have one million dollars. But the men of Inland had vision and faith and courage. They raised the money. They acquired the land. They built the steel plant.

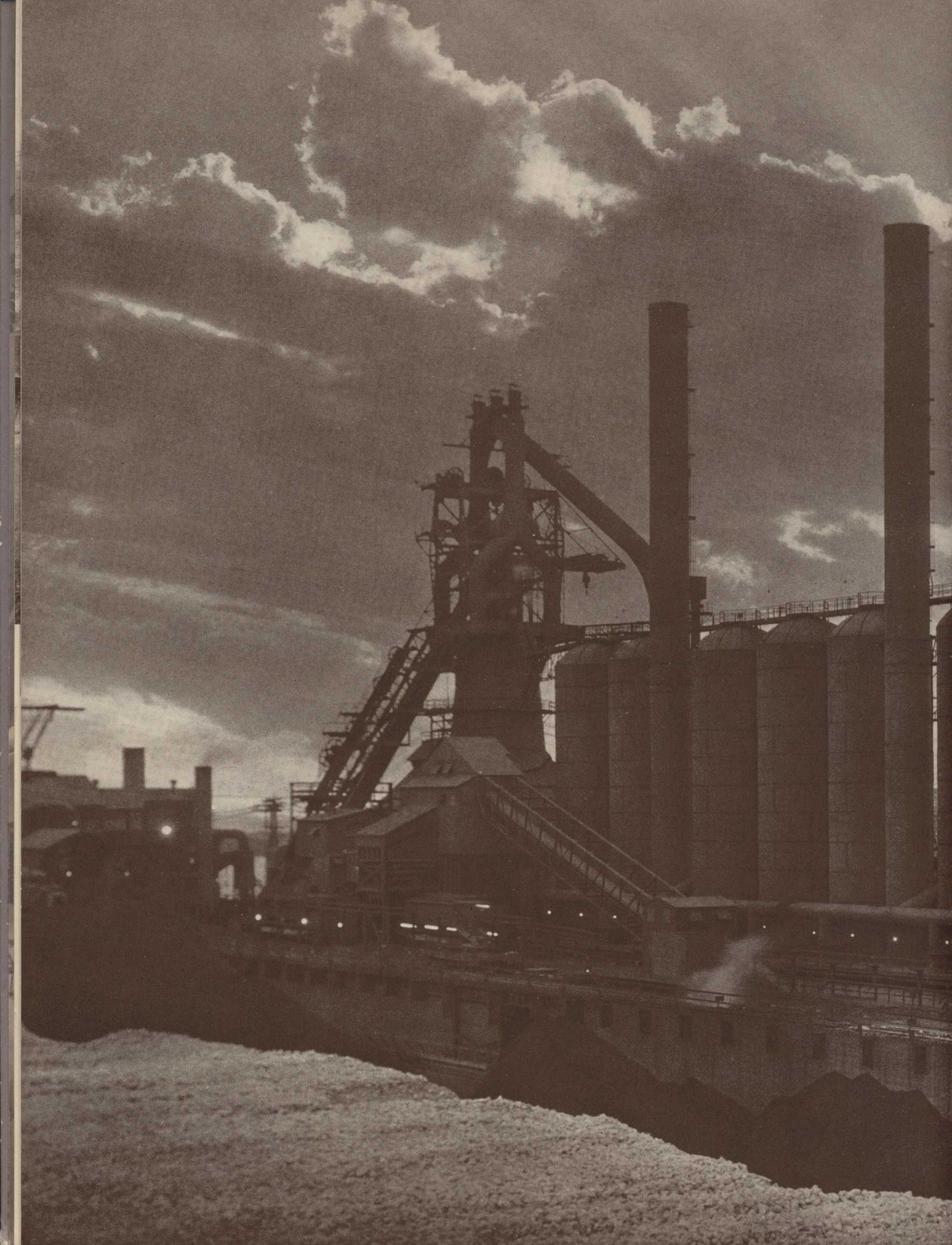
First they sold Inland Iron and Forge to the Republic Iron and Steel Company for \$500,000. They sold Inland stock to relatives, to friends, to just about any reputable person who could scrape up cash.

Bank loans raised working capital to a million dollars, four hundred thousand of which were spent at Indiana Harbor during 1901.

R. J. Beatty, who had operated the Midland Steel Company at Muncie, Indiana, agreed to invest \$150,000 and to join Inland as director and general manager. With him came men ex-









*Two of Inland's five blast
furnaces busy at sunrise.*



Oil on canvas

perienced in all phases of steel mill operation.

Original plans for the Indiana Harbor plant had called for two or three open hearth furnaces, of 40-ton capacity each, one blooming mill, and one standard bar mill. But Beatty had been primarily a sheet mill man. It was decided to capitalize on his experience and add sheet mills.

Ingots, and Mills . . . and Losses

On July 21, 1902, the first steel ingots to be poured in the East Chicago area were made at the new Inland plant. The blooming mill started operations the following month, and the sheet and bar mills were running by November. That first plant had grown while still in the blue print stage, and now consisted of four 40-ton open hearth furnaces, a 32" blooming mill, a 24" universal bar mill, and seven sheet mills.

It was tough going. The very high steam pressure needed to operate the blooming mill necessitated blocking the cylinder head on with steel

billets, and binding the head and walls with a strait jacket of tie rods.

And the 24" bar mill just wouldn't work, at first. That was a unique mill. Inland had wanted a mill to roll structural bars and shapes. But if Inland was going to roll sheets, too, it must have a mill for the production of sheet bar. And Inland barely had money enough for one mill. So the 24" mill was made a versatile mill, designed to do three types of jobs.

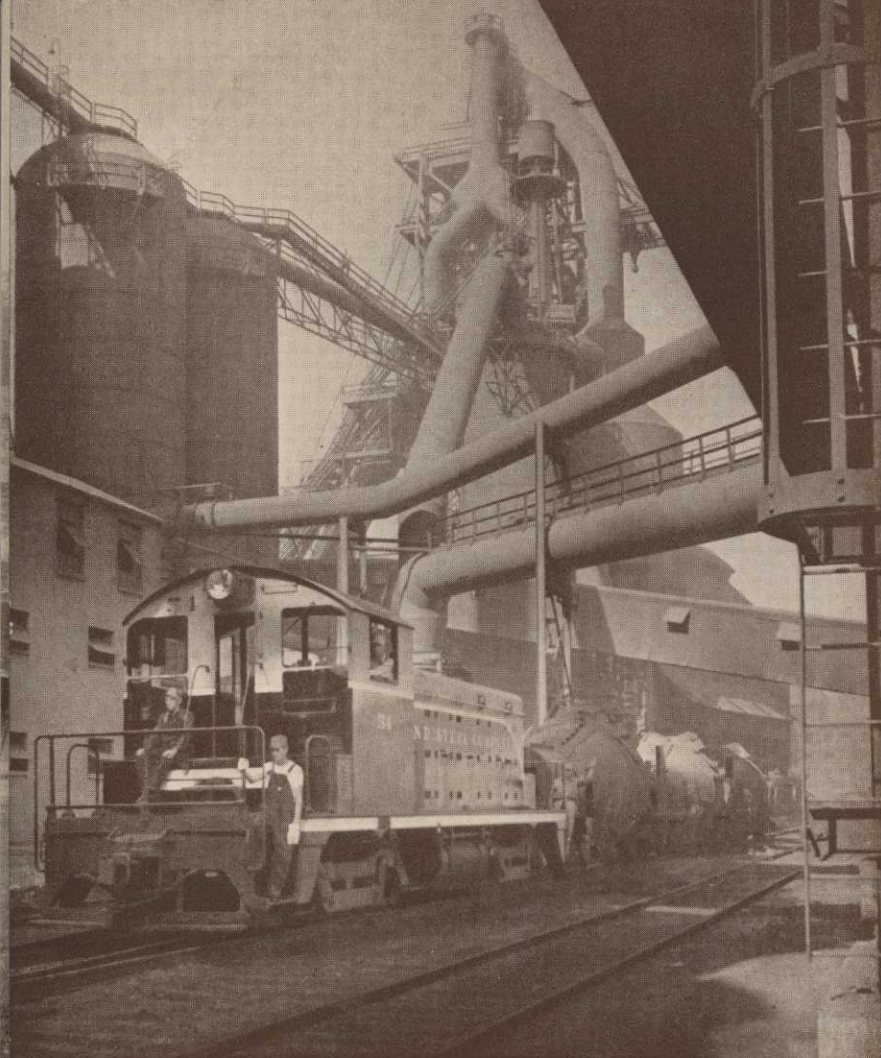
Week after week passed, with the new sheet mills needing sheet bar, and still the 24" mill refused to work, until finally, in late 1902, it was whipped into production. And when it got going it was to keep on producing for 40 years.

The first half of 1903 saw the sheet mills operating satisfactorily. Then the bottom dropped out of prices as depression hit all business. For Inland it was a body blow. Within a year the sheet mills piled up a loss of \$127,000, an amount much greater than the small earnings made by the other departments. And there were no cash dividends for five long years, from 1901 through 1906.

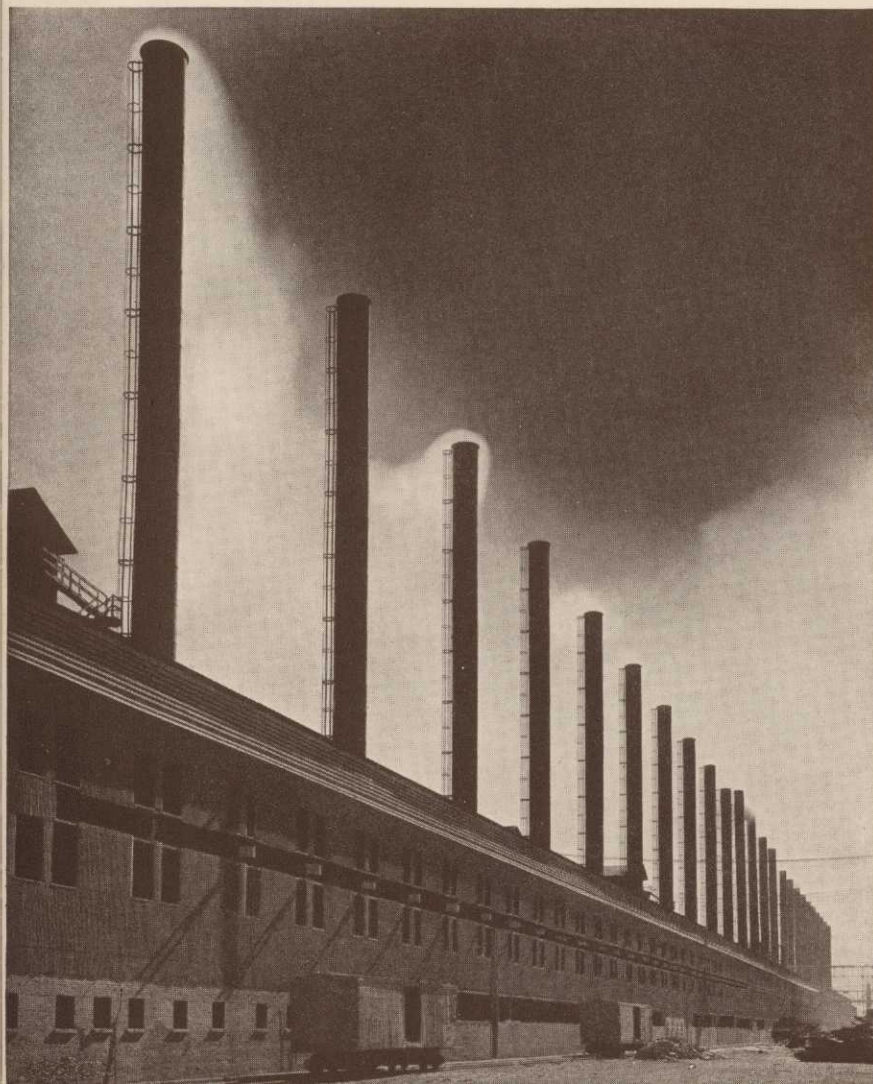
There was trouble everywhere in those early years of the Twentieth Century. But there was

◀ Steel from Inland goes into the machinery that has helped lighten the American farmer's work, helped make him the most productive farmer on earth. With power-farming made possible by improved steels, the farmer today can till five times as much soil as the farmer of fifty years ago.





Ladles of molten pig iron are hauled from blast furnace to open hearth by Diesel locomotives.



achievement, too. An unhappy maniac named Czolgosz was executed because his dislike for the United States form of government led him to assassinate President McKinley. Teddy Roosevelt of San Juan Hill strode into the White House. Mt. Pelee erupted, killing 30,000. Panama revolted from Colombia, and soon the United States started the construction of a great canal, dreamed of for centuries. Japan sneaked up on Russia and won another war. The Serbian king and queen were assassinated. Iosefi Dzugashvili, who later took the name of Stalin, was in bad with the Russian police. The Boxer Rebellion landed United States troops in China, and United States handling of indemnities set a world example for fair play. The Wright Brothers flew an airplane at Kitty Hawk, December 17, 1903. A Department of Commerce and Labor was established in the United States Cabinet. Skyscrapers built with steel were invading the American sky. And for the first time the United States was producing more steel than England, Germany, and France combined.

Through the hard times Inland kept on building, adding, improving. Two galvanizing pots were built in 1905, and the 24" mill improved so well that it could roll more steel than the four open hearths could produce. More capacity was needed, too, because Inland was working on its first big order: for 30,000 tons of steel, mostly channels and plates for 1906 delivery.

Integration . . . and a New Plant

The fifth open hearth furnace was built in 1906, and plans laid for still another, both of 60-ton capacity, and the four original units were

◀ In a single line extending for nearly a half-mile, the stacks of Inland's 24-furnace open-hearth battery at Plant No. 2 point their smoky fingers skyward.



White-hot coke discharging from one of Inland's 273 by-products coke ovens. The coke joins ore and limestone in the blast furnace to make pig iron. Coke by-products include tar, creosote, oil, benzol, toluol, gas.

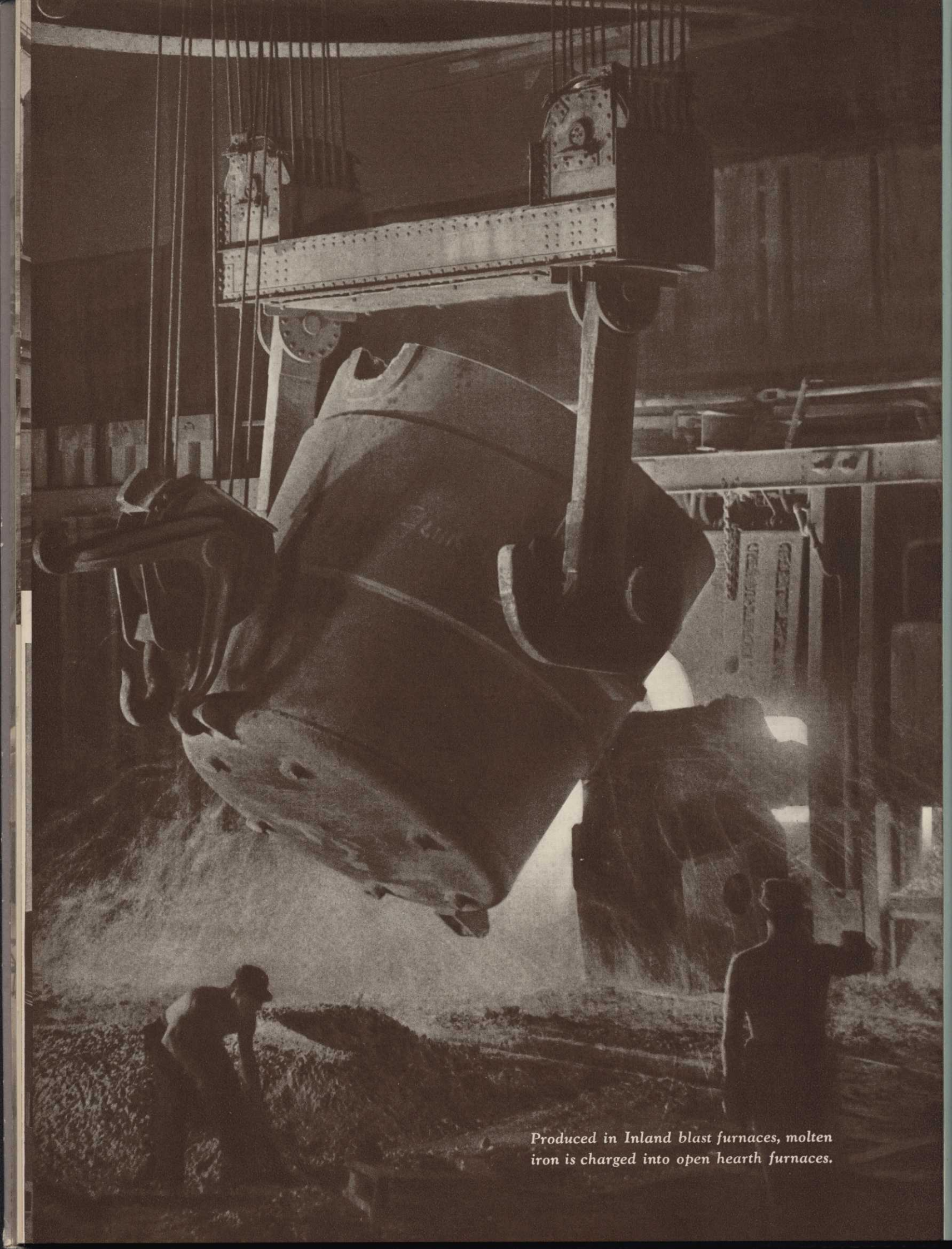
being enlarged to handle 50 tons. Three years later a pipe line connected the Indiana Harbor plant with the Standard Oil refinery at Whiting, assuring a dependable fuel supply, and a 50,000 gallon fuel oil storage tank was built.

Then came a major step toward complete integration, the purchase of the lease of the Laura iron ore mine on the fabulous Mesaba range near Hibbing, Minnesota. Acquisition of an ore supply was followed by construction of the first blast furnace in the northern Indiana industrial region—the Madeline No. 1, named for the daughter of P. D. Block. It was built on 28 acres purchased across the tracks to the north, a site which

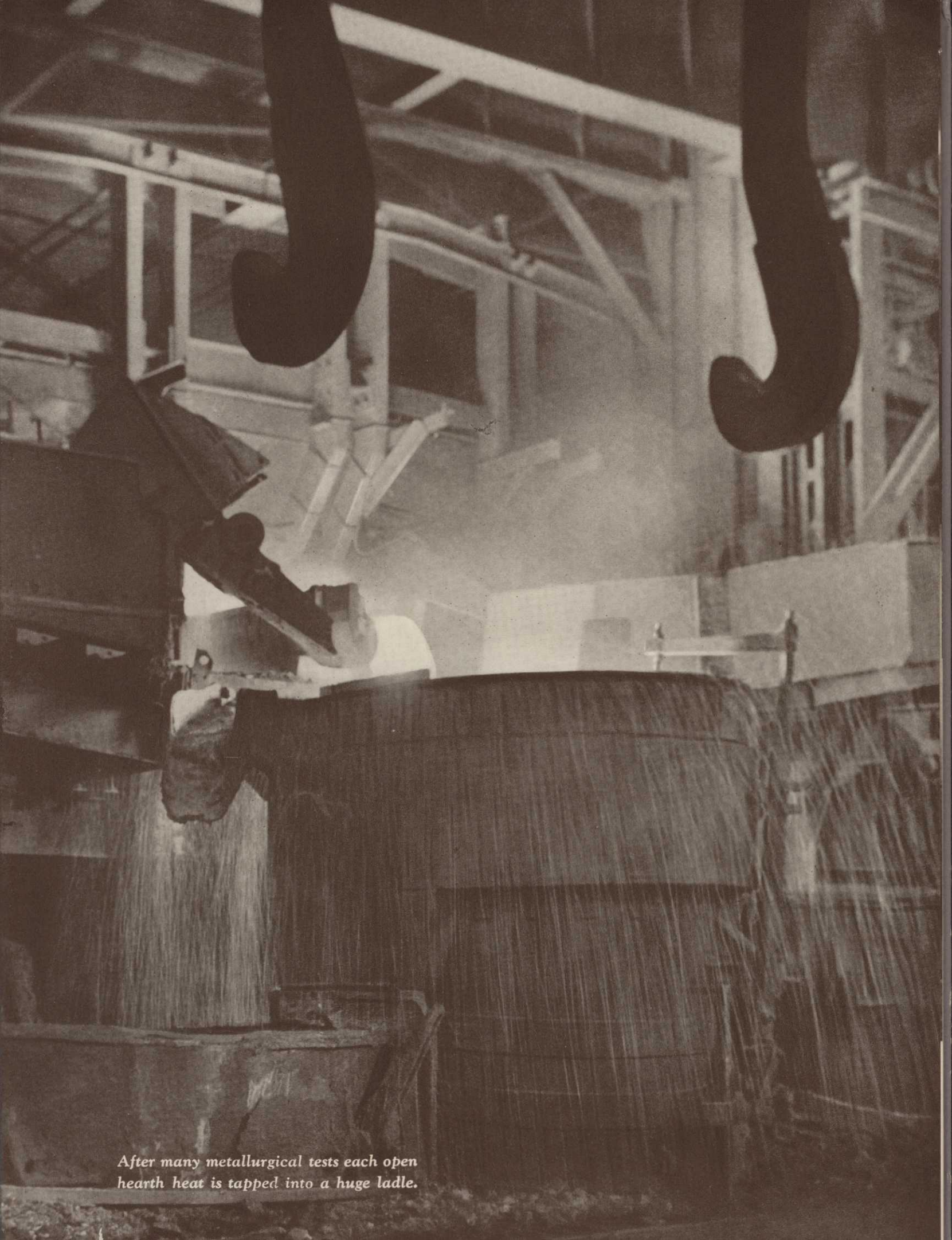
became the nucleus for Inland's Plant No. 2.

Here was the start of a new era for Inland. No longer would Inland have to depend upon outside sources for pig iron to feed the open hearth furnaces. With its own ore, and its own blast furnace, Inland could greatly increase production at a significant reduction in cost. And from those original 28 acres Inland could expand the new plant site by developing riparian rights, making land, adding acres.

To finance its program of constant improvement, Inland had issued \$2,500,000 in bonds through a Chicago brokerage house. When only part of the proceeds of the issue had been realized, the panic of 1907 swooped down. The brokerage house failed, and Inland was forced to increase bank loans to more than one million dollars. Construction of a new merchant mill was



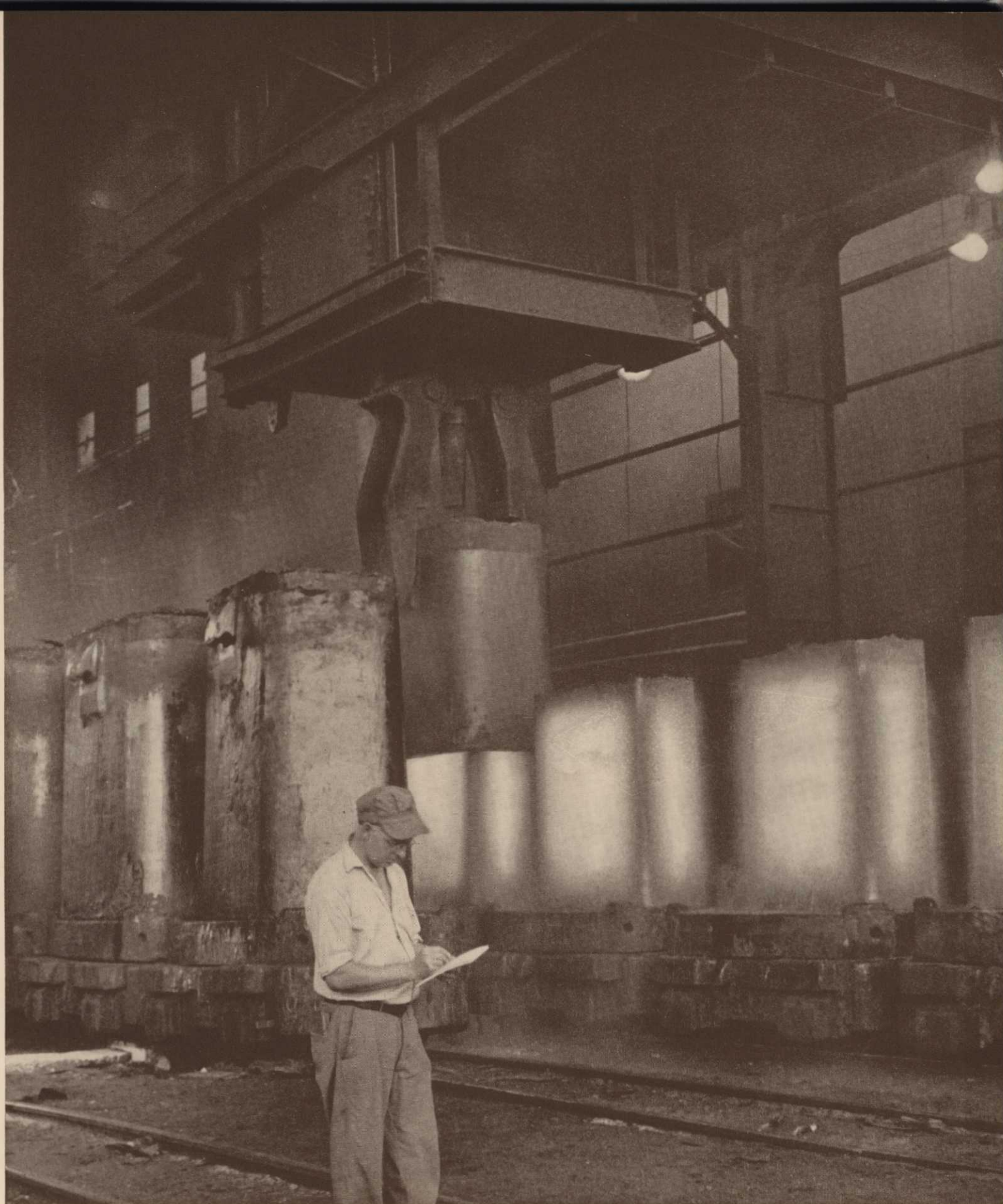
Produced in Inland blast furnaces, molten iron is charged into open hearth furnaces.



After many metallurgical tests each open hearth heat is tapped into a huge ladle.

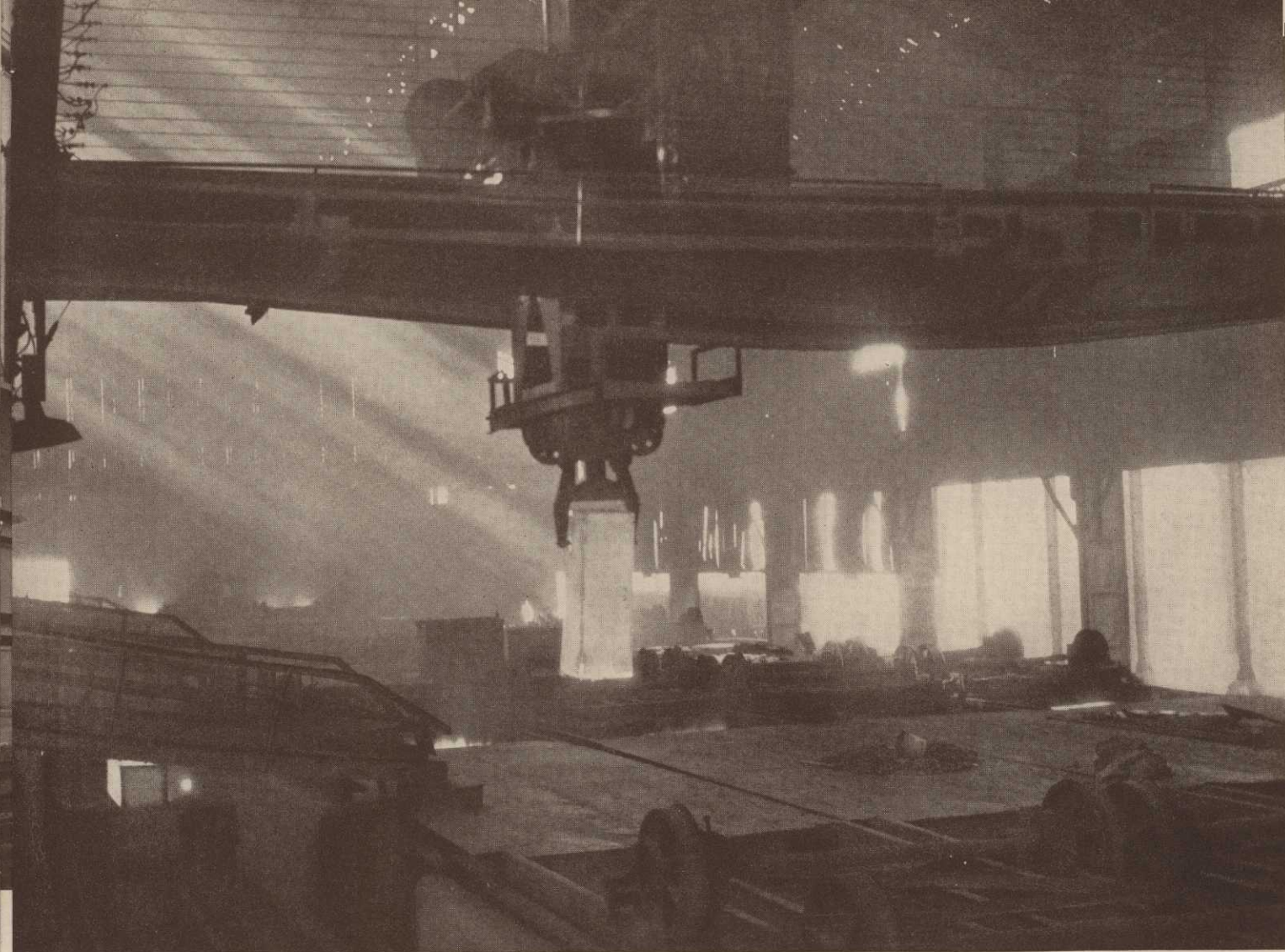


The ingot is steel in its first form . . . its first assumption of size and dimension. Liquid steel pours, above, from a 100-ton ladle into ingot molds. At left, an Inland metallurgist uses an optical pyrometer to "take the temperature" of a heat as it pours.



Steel jaws pull and a steel plunger pushes, above, to strip the mold from the solidified ingot, still glowing. At right, an Inland metallurgist catches a molten sample in a long-handled ladle, for chemical and physical laboratory analysis.





Ingot being lifted from soaking pit, where it has literally been "soaked" in heat (brought to a uniform high temperature throughout), a necessary prerequisite to rolling.

halted, and other improvements were brought to a standstill until a new bond issue for \$3,000,000 was floated to retire the ill-fated issue of 1906 and provide additional working capital.

Again the persuasive financial genius of L. E. Block had secured much needed money for Inland, in a time of distress.

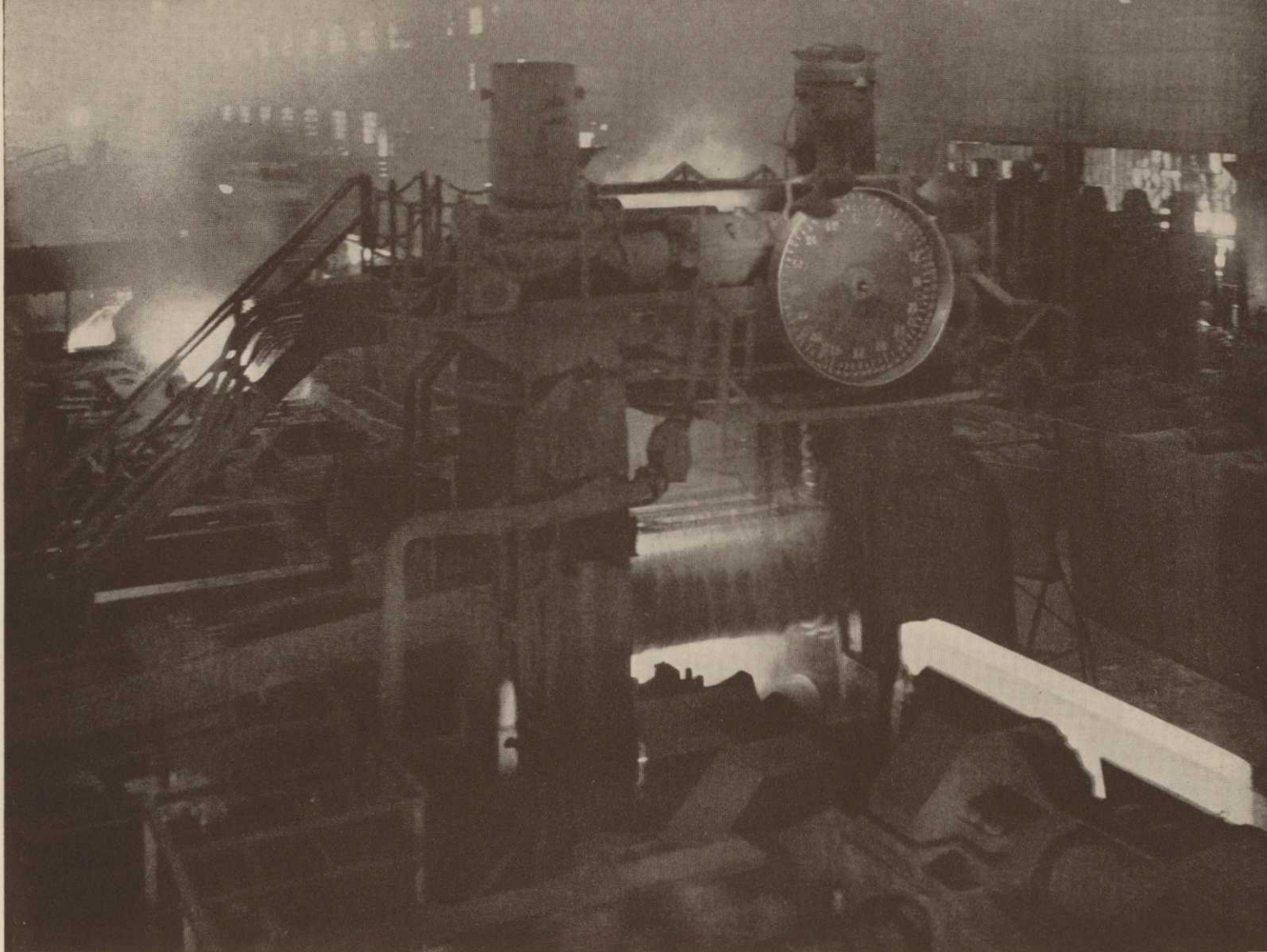
Inland was going forward now in giant strides. During 1908 three additional sheet mills were installed . . . two more galvanizing pots doubled capacity for galvanized sheets and roofing . . . the 8"-11" merchant mill was completed . . . a new 36" blooming mill replaced the old 32" mill which had caused so many headaches . . .

a 24" sheet bar and billet mill was installed . . . and construction was started on the emergency hospital at Plant No. 1.

By 1910 eight more sheet mills brought the total to 18, with No. 5 and No. 15 used as jobbing mills . . . two more open hearths were built . . . and additional sources of ore were developed on the Cuyuna range in Minnesota.

In 1911 Inland formed, with other stockholders, the Inland Steamship Company. This new group purchased two ore freighters, the Joseph Block and the N. F. Leopold, and engaged in the transportation of ore from mine to mill. In the same year the department of Safety, Sanitation and Relief was organized and safety posters were being printed in eight languages.

In 1912 Inland started the manufacture of track bolts, spikes, and rivets for railroads and



"The smith a mighty man was he," but today's blooming mills—using horsepower by the thousand—are mightier, handle tons instead of pounds.

the general trade. The second blast furnace, Madeline No. 2, was completed as additional mining properties were acquired on the Mesaba and Cuyuna ranges. And a quarter-million dollars was spent in dredging and filling to provide made land for the erection of a coke by-products plant in the expansion of Plant No. 2.

Capacity Tops a Million Tons

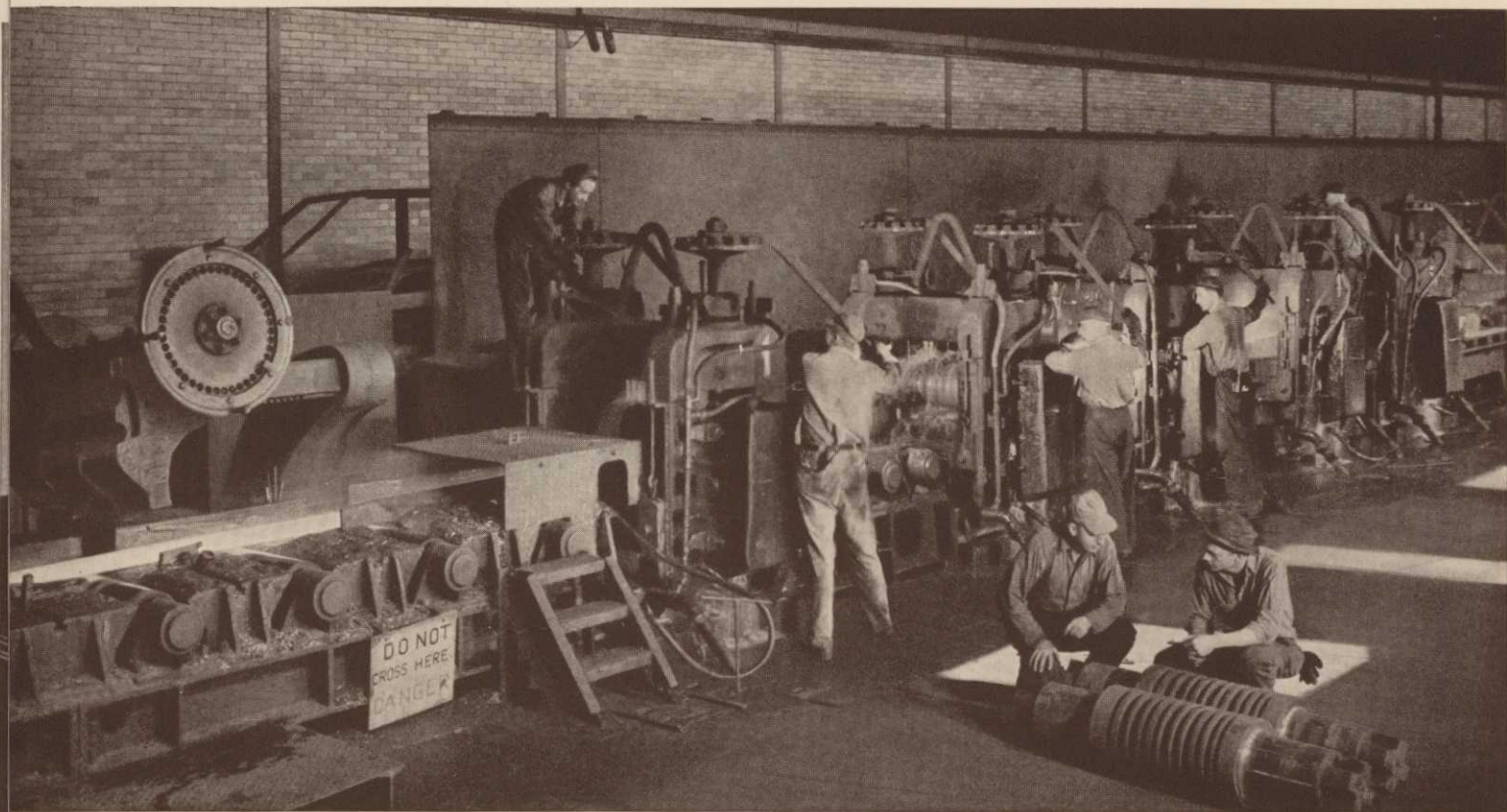
By the time Joseph Block died on December 6, 1914, he had seen the company of which he had been a founder grow in capital assets to 190 times its original size. He had seen wages and sales increase 80-fold. The company he had



helped nurse through discouragement and depression now operated three ore mines, and had another in reserve . . . two blast furnaces . . . a modern by-products coke plant . . . two 10,000 ton ore freighters . . . 12 open hearth furnaces, four of fifty-ton capacity, eight of sixty tons, with



Hot blooms from the 40" blooming mill move along conveyor tables, headed for the continuous reheating furnaces of the 28" rail and structural mill.



A few roll stands of Inland's half-mile long continuous 10" bar mill, where billets are rolled down to bars of precise dimensions. At the final rolls the steel is traveling faster than a thousand feet per minute.

a rated capacity of 600,000 tons of ingots. . . . A new 90" mill had been built, driven by electric motors. And as a significant step in steel plant electrification, low pressure turbines were using waste steam from the 36" blooming mill and the new 24" bar mill to drive the plate mill and half the sheet mills.

Installation of the 2,000 horsepower alternating current motor for the 90" mill, use of waste steam to provide electric power for the plate and sheet mills, and subsequent steps toward complete electrification, were laid out for Inland by a young Westinghouse engineer, Wilfred Sykes. He was to join Inland in 1922, and eventually become Inland's president.

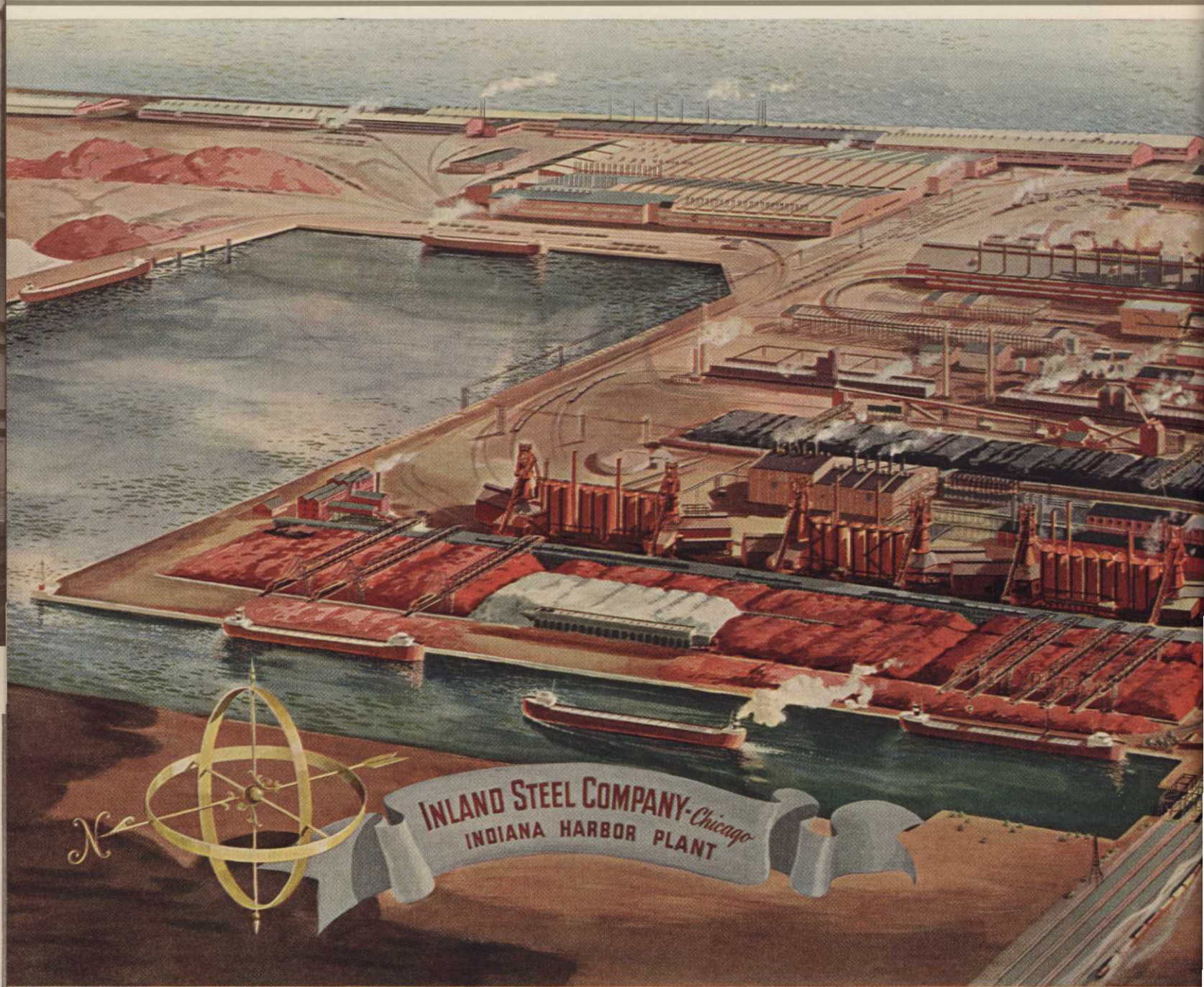
New Mexico and Arizona had been admitted to the Union, the 47th and 48th states. And a few theorists, with fancy language, were making dire predictions that there would be no more new frontiers for the people of the United States. But the automobile was replacing the horse on the highways, the tractor was taking its place on the farm. Man was conquering the air: the radio had proved its worth as a means of communication for ships at sea, and there were some giddy dreamers who thought that someday it might carry music and news and drama into American homes; the airplane had ceased to be a dangerous toy, and had been accepted—with reservations—by military men as a possible adjunct to fighting forces. Peary had finally found the North Pole. The American Iron and Steel Institute had been founded. Open-hearth steel, which in 1900 had accounted for only one-third America's production, was now two-thirds, and total American steel production had jumped above 30 million tons. The Progressive Party had flared up and fallen, and made possible the election of Woodrow Wilson to the Presidency. The income tax had started contributing to the national supply



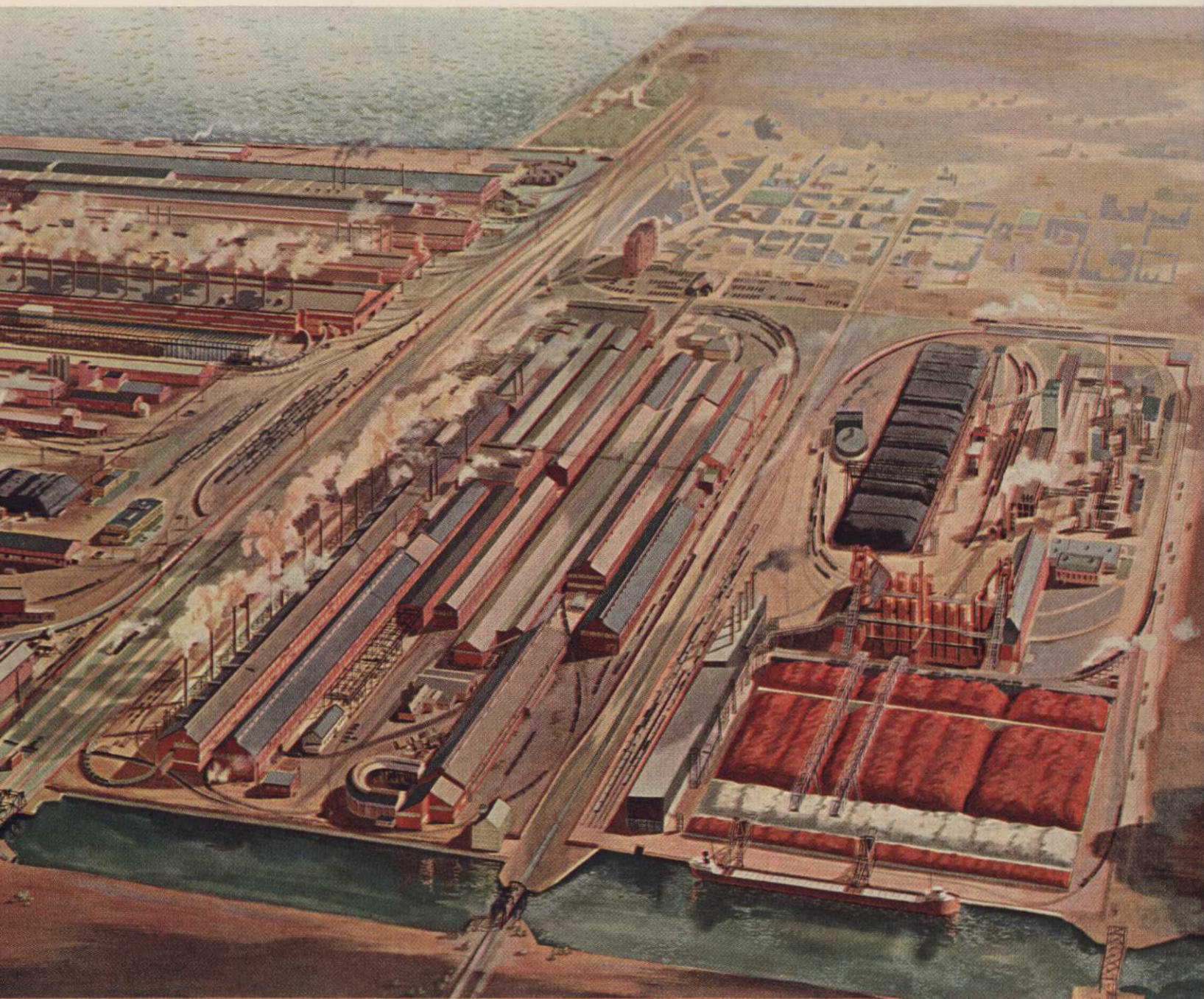
Rails for American railroads undergo rigid inspection at Inland.



High-speed hot saws cut Inland rails to exact lengths.



Here is the Indiana Harbor plant today, covering a total of 630 acres. To the right of center may be seen the 12 stacks of the open hearth furnace battery built on the original 50-acre site with which Inland started at Indiana Harbor in 1901. Beyond them is the brick and stone office building. To the right of them are the mills and shops of Plant No. 1. The new ore bins and blast furnaces far to the right, and the coke-oven battery beyond, were built under Inland supervision for the Defense Plant Corporation, and will be operated by Inland for the Government.



Across the tracks to the left of Plant No. 1 is Inland's Plant No. 2, originally 28 acres, now 574. Beyond the canal, the ore bridges, and the blast furnaces may be seen the stacks of the 24 open hearth furnaces of Plant No. 2. Beyond them, and far to the left, reach Inland mills for the production of tin plate, sheets, plates, bars, billets, structurals, and rails.

The plant is completely electrified, and requires as much electricity as is used by a city of 500,000 population. Over 90 miles of track, 43 locomotives shunt coal, coke, ore, limestone,

pig iron, ingots, billets, slabs, blooms, and finished steel through the plant speedily and efficiently. Water in tremendous quantities is used in steel production—165 tons for every ton of finished steel.

Through the Indiana Harbor canal passes as much tonnage as is handled by many major metropolitan seacoast ports.

At this plant alone more than 12,000 of Inland's 20,000 employees make their living. This plant has a capacity of more than 3,400,000 tons of ingot steel a year.

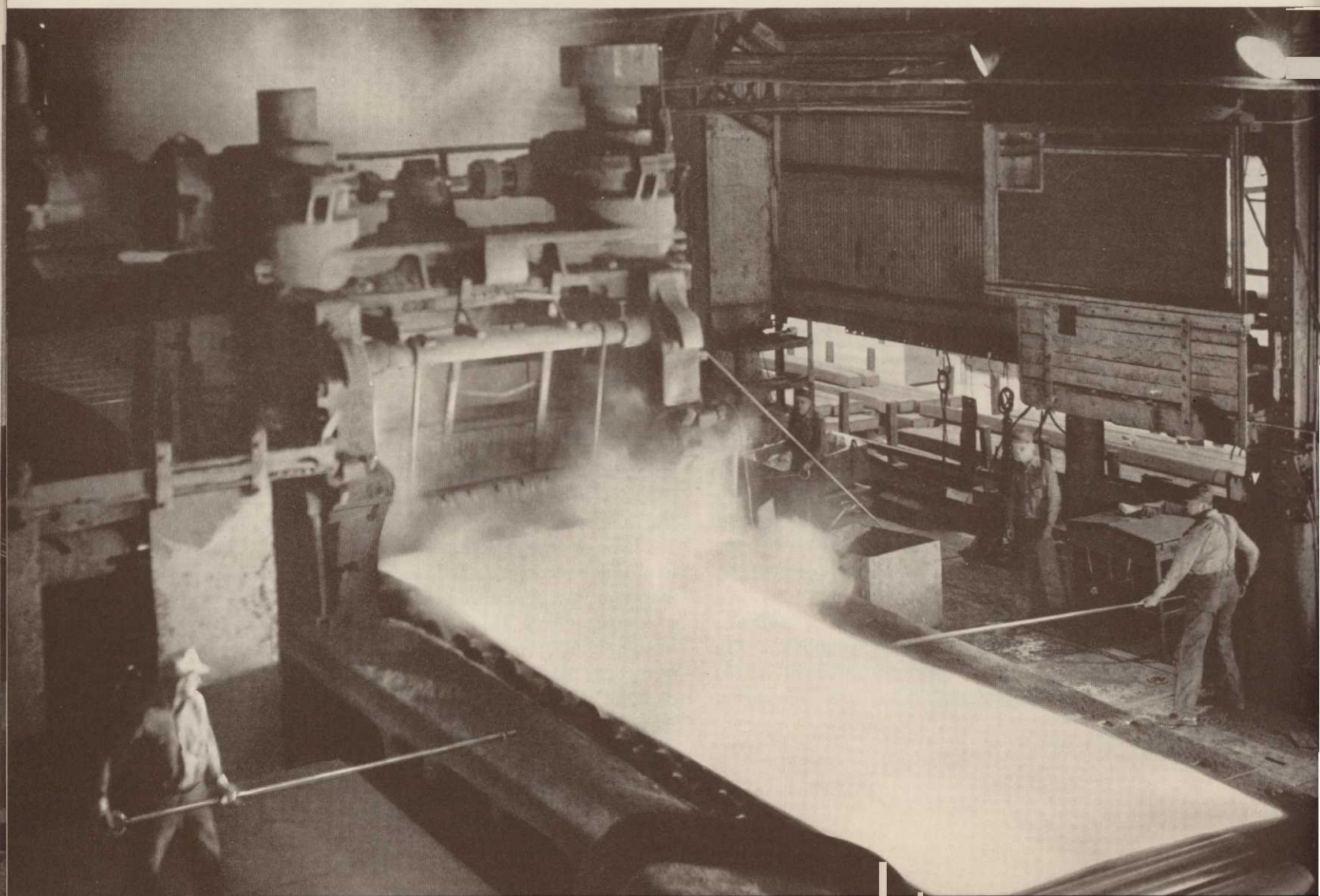
of gray hair. The Panama Canal—a victory of stubborn men over stubborn earth and stubborn disease—had been opened to shipping. The Federal Reserve System had been created. And Europe, suffering from incurable political disease, had plunged into another war.

Inland's annual ingot tonnage, which was less than half a million in 1914, was to top one million for the first time in 1917. To provide ore for this expansion in capacity, Inland added to its mining properties, and by 1915, after an expenditure of two-thirds of a million dollars, was the largest producer on the Cuyuna range. By 1917 Inland was operating seven ore mines, shipping better than one million tons annually. Inland put money into those mines, too, for improvements; so much that open market purchase

of ore might have been cheaper. But ownership meant independence of supply in a world that was crying for steel.

The original program of blast furnace development for Plant No. 2, built on made land on the lake side of the tracks, was completed in 1917, after 10 years of steady additions. Most of the excavating was carried on in the winter time, with steam shovels and railway equipment from the winter-bound ore mines, which otherwise would have been lying idle. The new plant site represented an expenditure of three-quarters of a million dollars for reclamation alone. It made room for new docks and storage bins, two more giant ore bridges, a third blast furnace—the Madeline No. 3—a battery of ten open hearth furnaces, 20 soaking pits with a capacity of 160 ingots, a new 40" blooming mill, new 32" and 28" rolling mills, and 44 new coke ovens, bringing the total by-products coke ovens to 130.

Plates for ships of the U. S. Navy and Maritime Commission roll in record-breaking quantity from Inland mills. The 100" plate mill is shown below.



All mills and machinery in Plant No. 2 were powered by electricity. The largest reversing motor then built supplied 12,000 horsepower for the 40" bloomer, and the new 32" roughing mill was driven by an 8,000 horsepower motor.

Problems of War . . . and Inflation

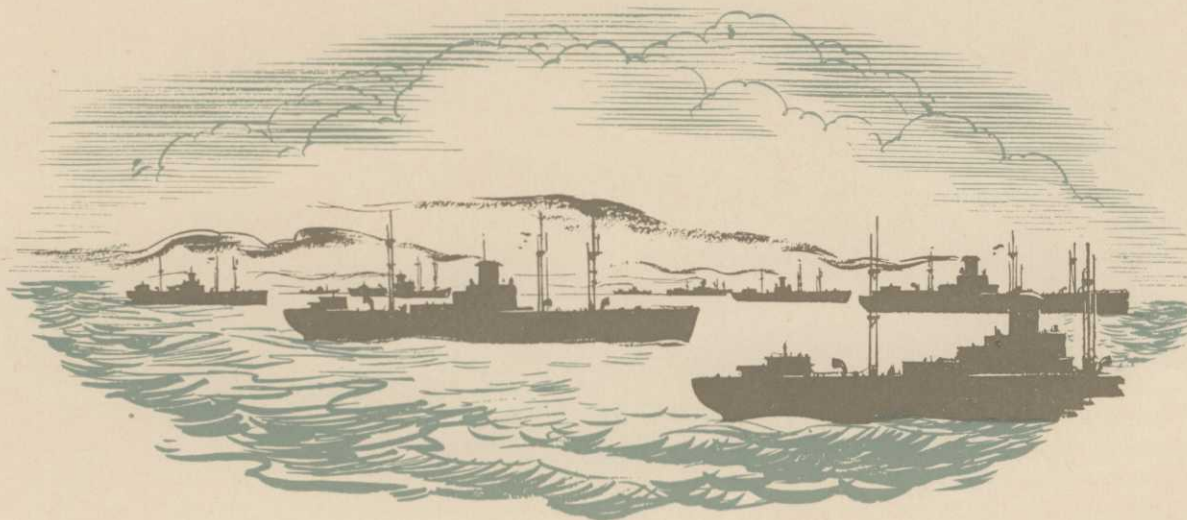
Electrification meant greater speed. And electrification meant greater precision. For steel was being called upon to do more kinds of jobs, more exact jobs, bigger jobs. The war was being fought with steel.

At first it looked as if the United States could stay clear of the fight. There were enough troubles over here. Trouble in Mexico, and marines landing at Vera Cruz. Trouble again and a punitive expedition sent across the border under "Black Jack" Pershing. Woodrow Wilson, who had called for peace at any price, was reelected. And six months later the United States was in the war. There was scoffing in Europe. What could an unprepared America furnish, in time to stave off Allied defeat, except moral support, and a few token divisions? But Europe had failed to reckon with the fiber of American free men. And American free industry. Slowly the German fortress started to crumble. First Bulgaria, then Turkey, then Austria-Hungary laid down



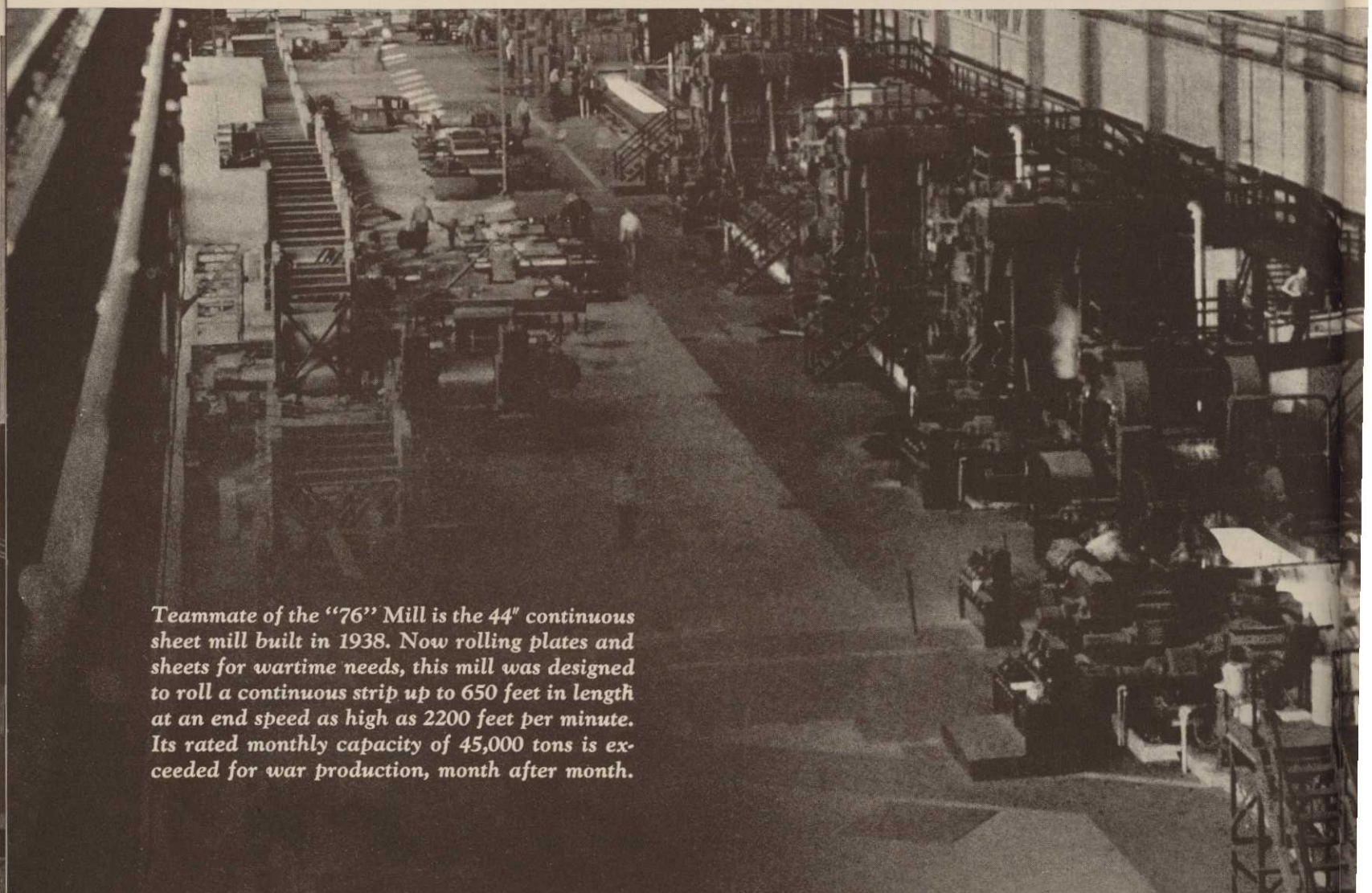
Constant maintenance—such as the precision grinding and polishing of rolls to watchmaker accuracies—is necessary to keep Inland's machinery producing quality steel.

For its achievement in producing plates for Liberty ships, Victory ships, escort vessels, and other essential war materiel, Inland has won both the Army-Navy "E" and the Maritime Commission "M".

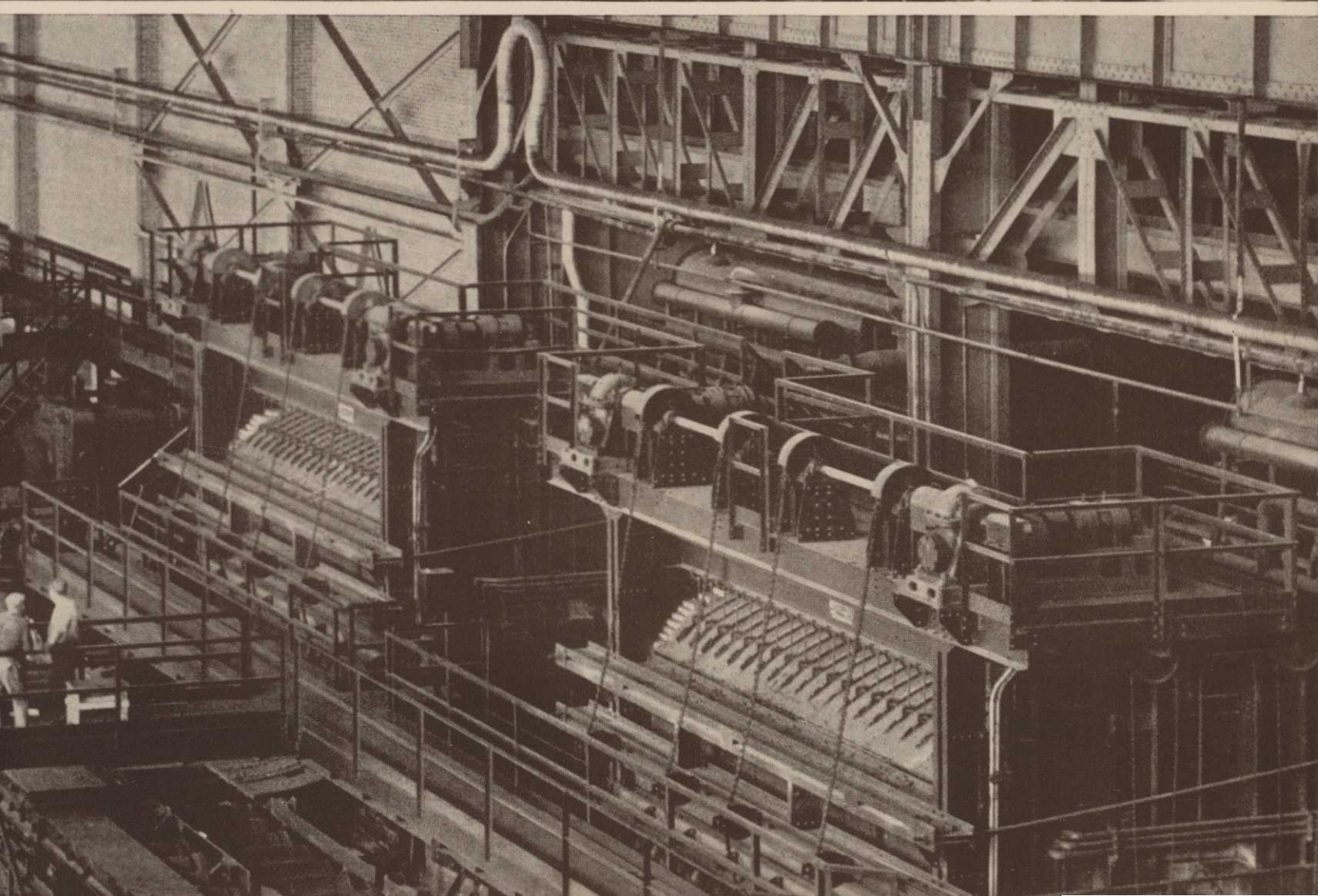
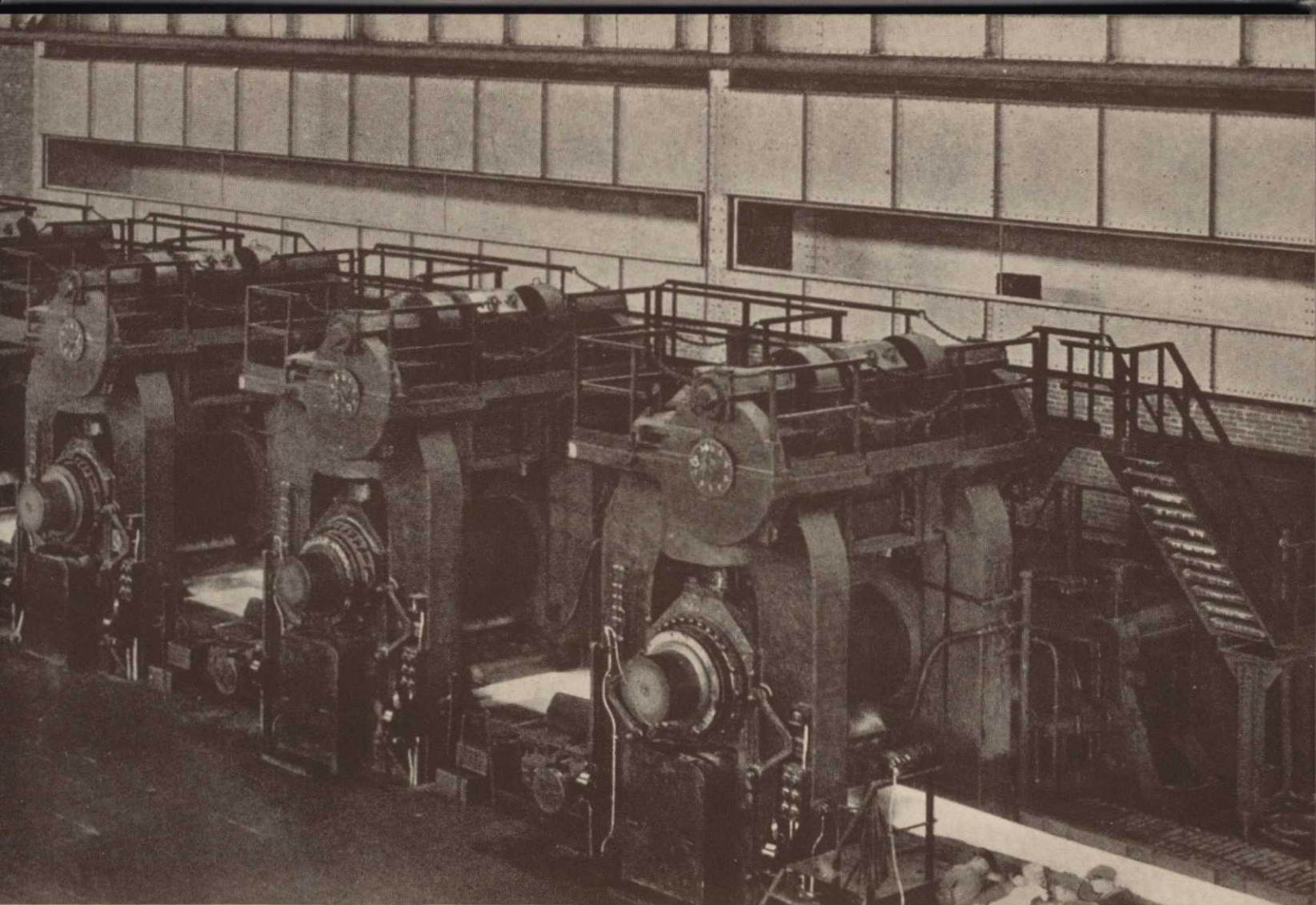




Inland's 76" continuous mill. First of its size, this mill was completed during the depression year of 1932 at a cost of \$15,000,000, with original monthly capacity of 50,000 tons. It has rolled millions of tons of sheet steel for such peace time products as automobiles and refrigerators; is busier than ever now, rolling plates for war.



Teammate of the "76" Mill is the 44" continuous sheet mill built in 1938. Now rolling plates and sheets for wartime needs, this mill was designed to roll a continuous strip up to 650 feet in length at an end speed as high as 2200 feet per minute. Its rated monthly capacity of 45,000 tons is exceeded for war production, month after month.



their arms. And then came the Armistice with Germany, the victorious end of the war that was to have made the world safe for democracy.

War-fanned inflation was driving prices up.

And up went wages. The average hourly wage at Inland doubled from 1915 to 1918. Total Inland payroll, which was \$4,318,977 in 1915, more than tripled, reaching \$14,559,291 in 1918.

But Inland for years had provided more than pay checks for its employees. As far back as 1911 the department of Safety, Sanitation and Relief had started a program of education among the employees, many of whom were immigrants from southeastern Europe. In its first three years of preaching the gospel of safety, the department had reduced time lost because of accidents by one-third. During the depression period of 1914 the Inland Fellowship Club had been organized and more than two thousand Indiana Harbor employees (70% of the total) were donating ten cents each per month to a fund used for relief among the families of workers, and Inland was donating the coal that was needed. Added to the company payroll at this time was a visiting nurse, to provide scientific care for employees' families. Business even then had assumed social

responsibilities; and helping provide for and improve the welfare of workers, during fat days and lean, had become recognized as a progressive and constructive function, a task to be performed by all forward-looking industry. In the bad days which preceded America's entry into World War I, Inland had cared for its own.

Inland as Industrial Guinea Pig

P. D. Block, whose energy and drive had played such an important part in Inland's growth, was elected president in 1919. In that year Inland pioneered by introducing the work day of three eight-hour shifts. But since no other steel company followed, Inland was placed in an unprofitable competitive position and was forced to abandon the eight-hour day until a later date when it was adopted by the whole steel industry.

A nation that had operated under forced draft to win a war thousands of miles from home, started to slow down. Inflated prices began to recede. Slowly, at first, so slowly that one news-

Use of steel as framework for buildings and bridges was new when Inland was founded. Today steel is the essential construction material, and Inland's mills have rolled millions of tons of structural steel for the American building industry. ◻





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paper commented, "It's gratifying to see a \$4 pair of shoes reduced from \$22 to \$17.98." Then rapidly, during the last half of 1920, the nation plunged into severe depression.

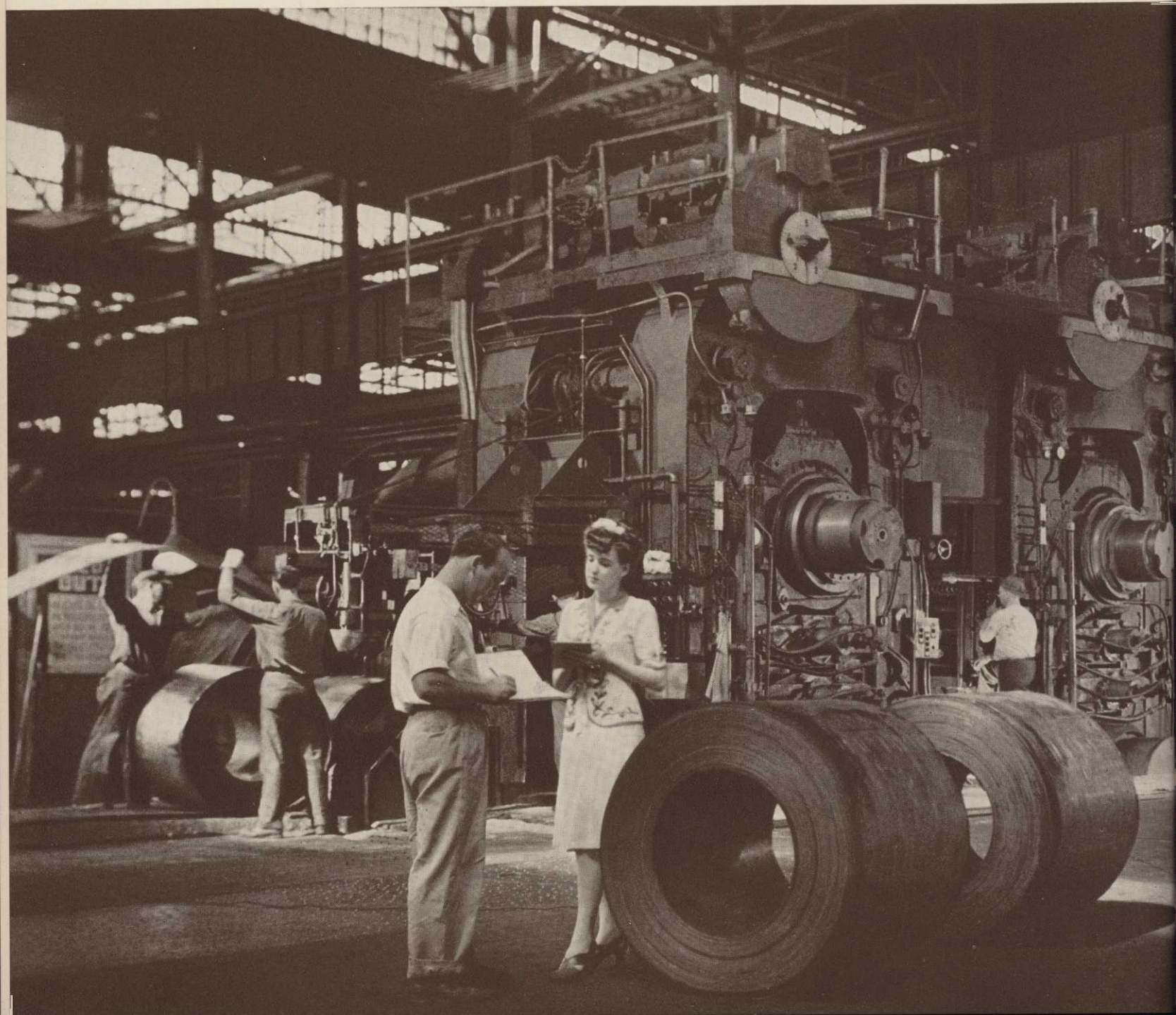
Yet Inland kept on building. Inland decided to make rails in the 32" roughing and 28" finishing mills, formerly used for rolling structural shapes only. This was an innovation in the steel industry and a successful one. Two years later the rolling and finishing of rails was to become for a time the number one Inland operation, in sales and in earnings.

A structural steel finishing mill was added, at

a cost of one million dollars. The 90" mill was enlarged to 100" size. And out at Chicago Heights the Chicago Steel Post Company was purchased, and a new plant for the manufacture of the now-famous Red Top Steel Posts was built next door to the original Inland site.

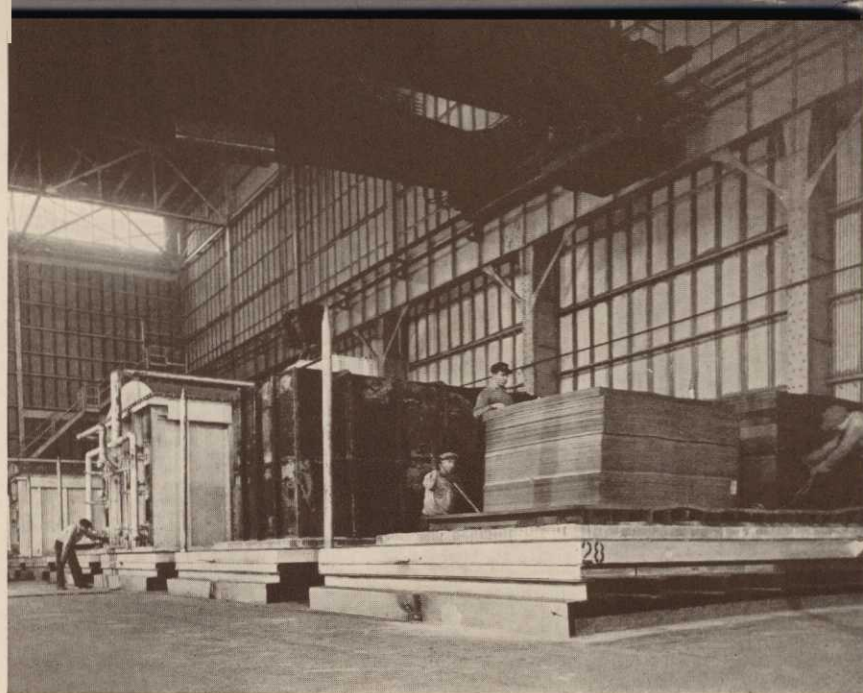
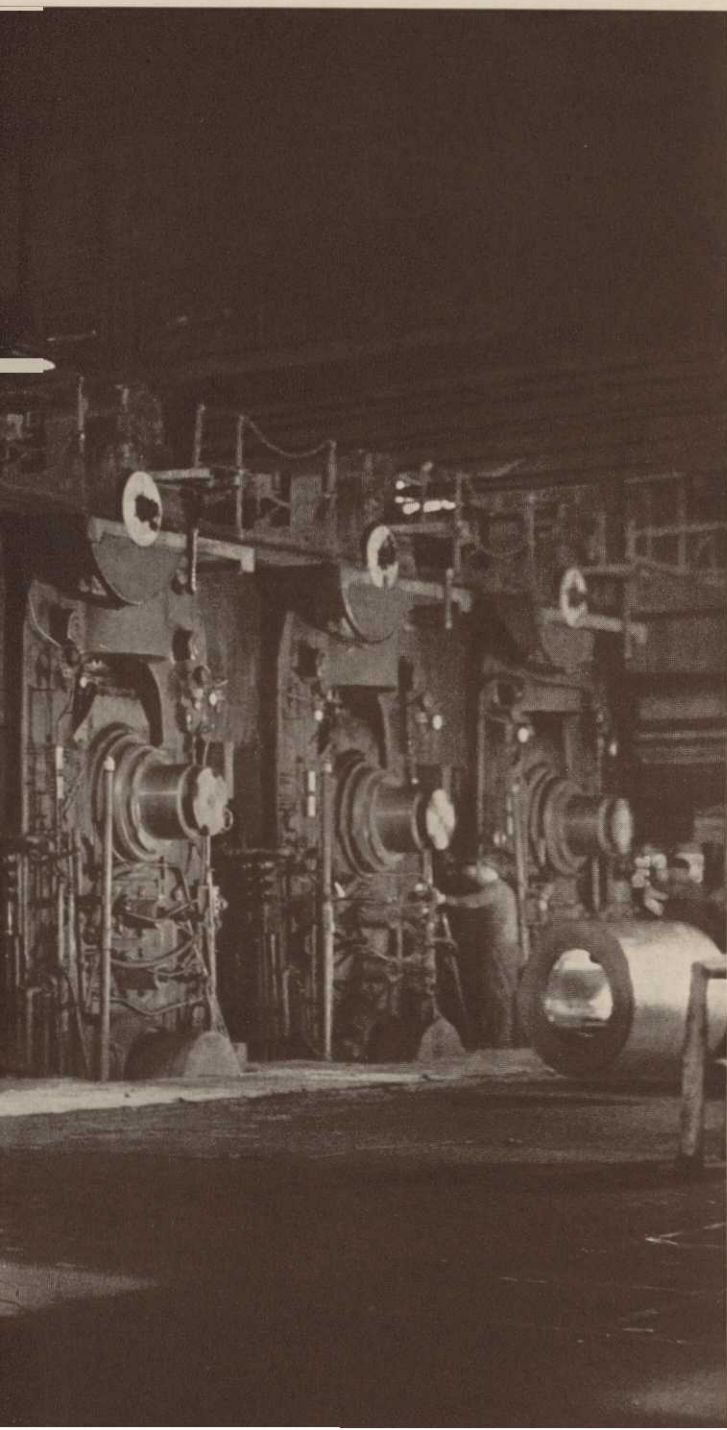
Ingot production in 1921 dropped back to just over 400,000 tons, and annual payroll declined to less than eight million dollars. But by 1923 Inland was ready to start a program of expansion which would entail the investment of seventy million dollars in five years.

Primary task in this five-year program was the

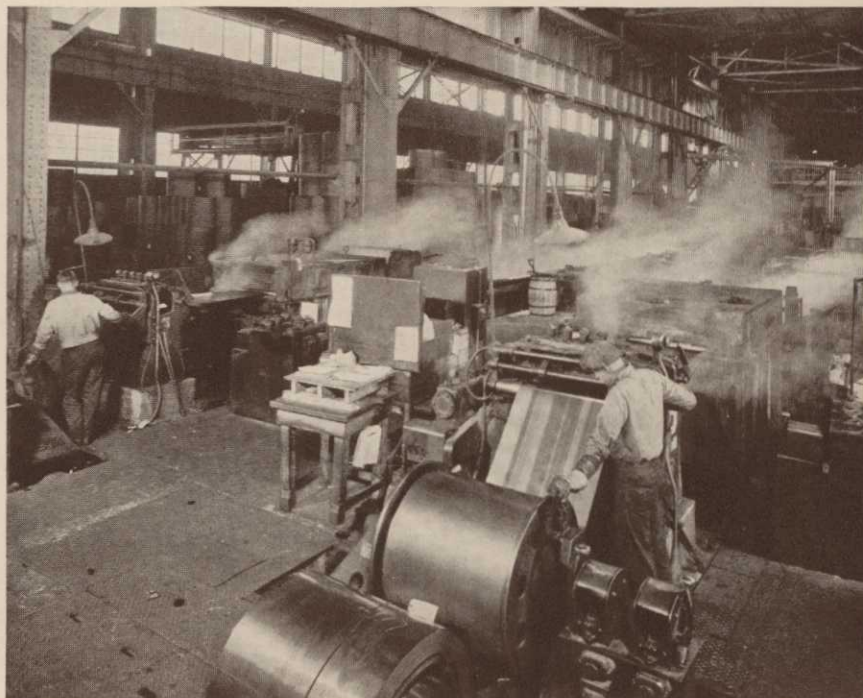


complete electrification of the Indiana Harbor works. Inland had seen the operating worth of electric power early, as far back as 1901 when blue prints for the original Harbor plant were drawn up. As Inland grew the value of electric power kept proving itself, and the vision of the men of Inland, the willingness to experiment, resulted in many novel installations, some of which set the pace for the entire steel industry.

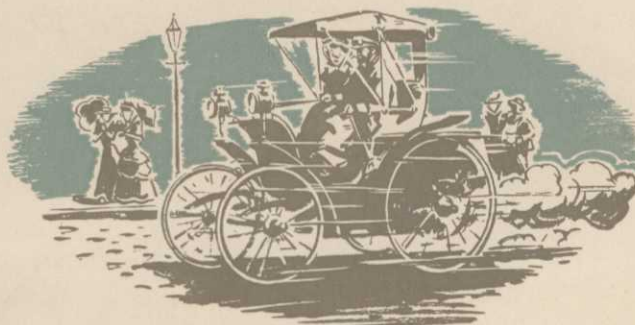
Cold rolling reduces the strip to precise thickness, stiffens the steel, and produces a lustrous finish.



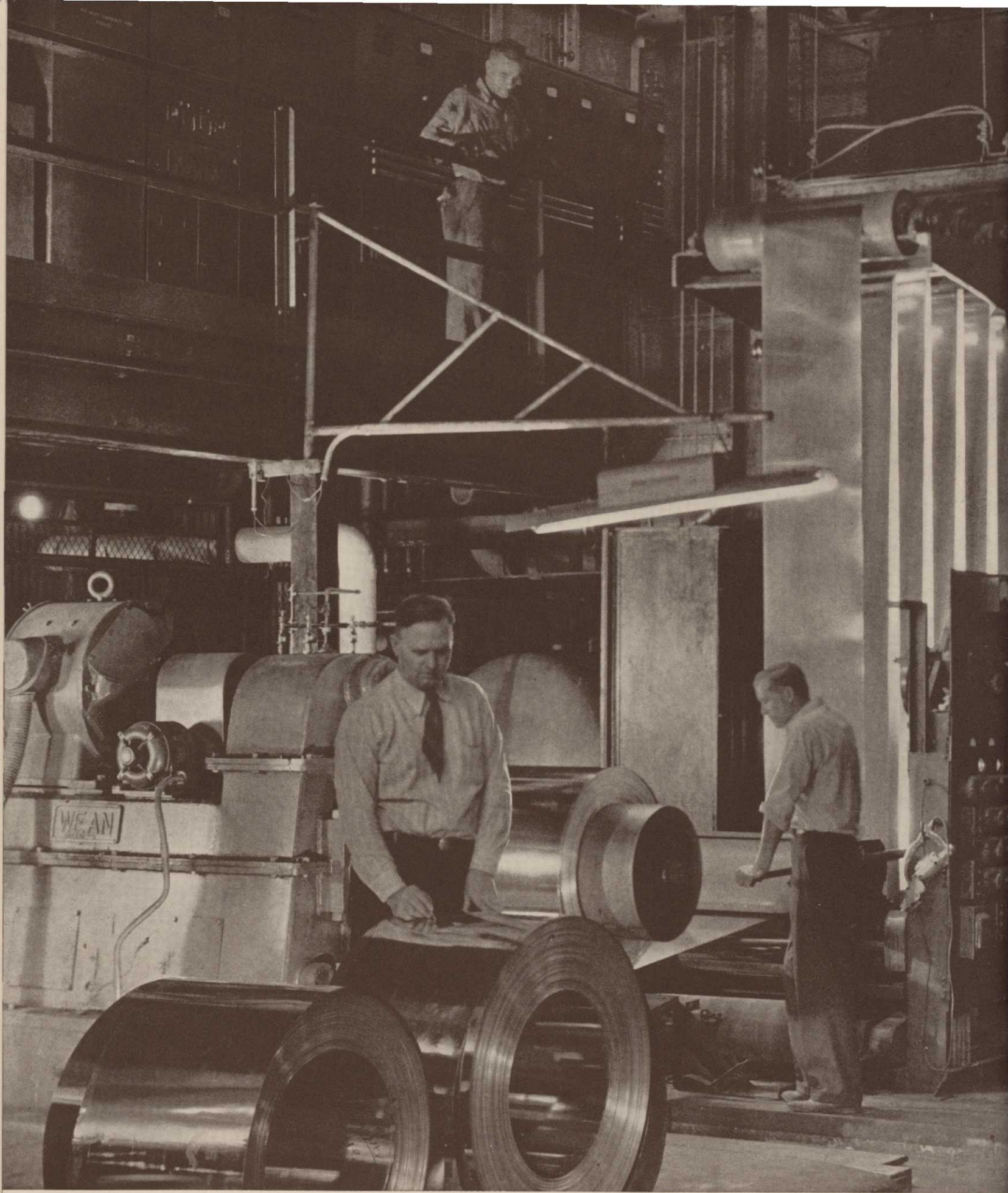
Annealing of hot rolled strip is a heat treatment which makes the steel more ductile, prepares it for cold rolling.

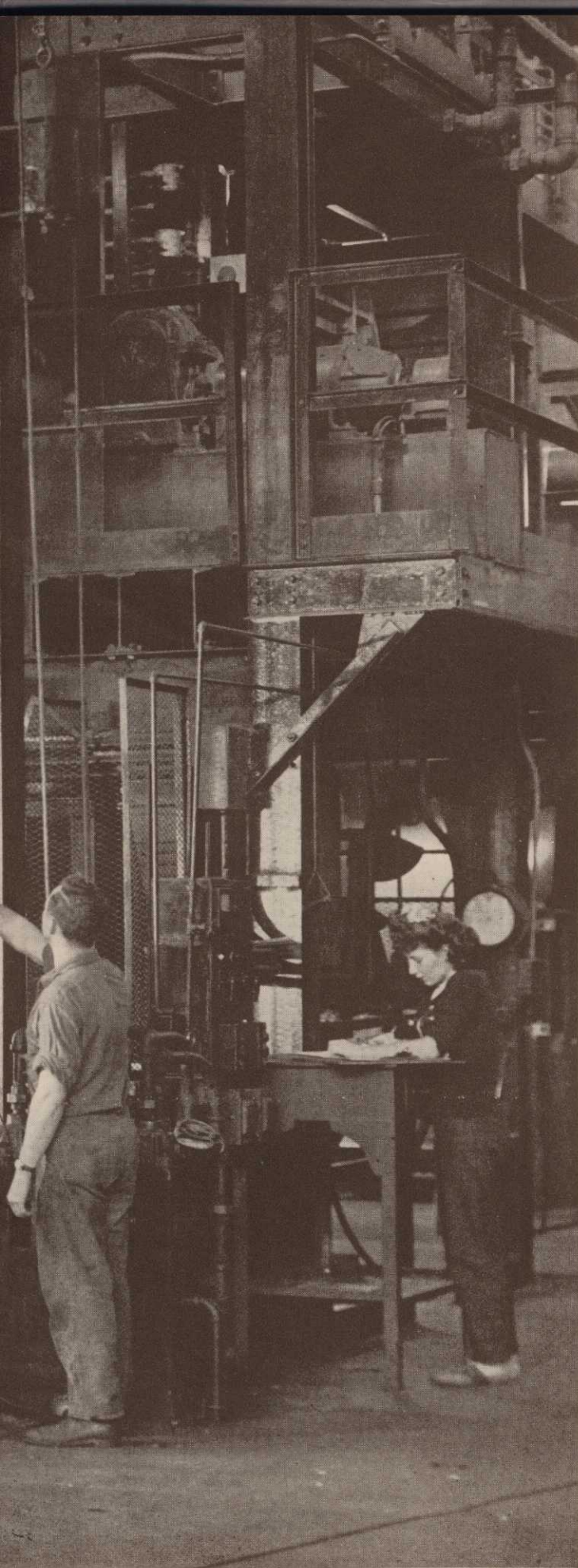


Pickling—immersion in a dilute acid bath—removes scale formed during hot rolling and heat treatment.



Sturdy, safe, smooth pressed steel has replaced wood in automobile bodies.





In the words of one of the engineers: "Inland management had the wisdom, the courage, and the foresight to permit its Indiana Harbor plant, if I may so express it, to become an industrial guinea pig. The result was that many safety devices, engineering ideas, mechanical and electrical theories found a place where they could be applied to actual operating equipment and conditions. Once in use, they could prove their value to industry as a whole, and enable the manufacturing companies to continue their progress. In turn, the progress made steadily lightened the working man's burden, and made his place of work safer and more agreeable."

When the job of electrification was completed in 1926 it had cost three and one-half million dollars. Yet it had not increased steel capacity one pound. But it had reduced costs. It had improved steel quality. And it had made Inland a safer, better plant.

Business was booming. Ingot production in 1923 surpassed the wartime peak. As sales increased, more millions of dollars were invested and reinvested in the gigantic expansion program: for new open hearths, a new blast furnace, a new 14" merchant mill, a 24" continuous bil-

Inland helped develop successful electrolytic tin-plating, and put the process to work in 1942 by installing the mill shown at left. This method of plating saves scarce tin, uses less than half as much as the conventional hot-dip process. Tin cans and other tin-plated containers made from Inland tin-mill products are widely used to keep food pure, wholesome, nutritious, economical and easy to serve.



let and slab mill, a 19" continuous mill that presaged a new era in the rolling of steel sheets. Ore storage space was enlarged, 76 new coke ovens were added, and a tar distillation plant erected. To expand control over its sources of raw material, Inland purchased stock interest in five additional ore mines.

During this vast expansion, 9,000 employees

were kept busy, and annual payrolls exceeded seventeen million dollars.

They called the 1920's the era of wonderful nonsense. The decade was ushered in with Prohibition, which was said to be a "noble experiment." Women were voting, now, so politics would be cleaner. Warren G. Harding, whose front-porch campaign asked for a return to nor-



malcy, was elected President. People were seriously discussing disarmament, and prophesying there would be no more wars. A few statesmen around a conference table in Washington had sunk more warships, by agreement, than had been sunk in the world's major naval battles. Lenin died, and Joseph Stalin's power increased. The Munich Beer Hall Putsch had flopped, and one of its leaders, one Adolf Hitler, had been thrown in jail. French and Belgian troops occupied the Ruhr. More treaties kept being drafted and signed. Civil war raged in China. Gertrude Ederle swam the English Channel, Admiral Byrd flew to the North Pole, Lindbergh flew to Paris, and Millikan discovered cosmic rays. Ethyl gasoline, cellophane, dry ice, and the autogyro were introduced. The radio had become essential furniture for nearly every home. Herbert Hoover succeeded Calvin Coolidge as President, after campaigning with the promise of two cars in every garage, and a chicken in every pot. These were years of plenty, with economists talking about a permanent high level of prosperity. But they were also years of disillusionment. Every-



Thin steel sheets cut from cold rolled strip become tin plate by the hot-dip process shown on opposite page. Fed through a bath of molten tin; the glistening sheets are rinsed in palm oil and automatically stacked. But they must pass the keen eyes of Inland's sorters and inspectors, above and below who handle each sheet tenderly with rubber-faced gloves.





body played the stock market. It was a fascinating game. Fortunes—small and large—were made overnight. Until the whole false structure swelled to the bursting point, and burst, launching the most severe depression in history.

Inland was well prepared for the relapse which started in 1930. It had acquired a source of supply for limestone, by forming the Inland Lime and Stone Company in 1928, purchasing a quarry on the upper Michigan peninsula, and constructing a large crushing, loading, and shipping plant. And it had added to its coal properties by acquiring 15,000 acres of high grade coking coal land and the machinery of the Elkhorn Coal Company near the village of Wheelwright, Kentucky, which it transformed—by the introduction of water supply, paving, and sanitation—into a model mining town. Ore supply was further expanded with the acquisition and development of the Greenwood mine in Marquette County, Michigan.

Steel has modernized the American kitchen, made the American housewife's job easier. Steel from Inland serves American homes . . . in refrigerators, utensils, cabinets, washing machines, easy-to-clean table tops, spic-and-span sinks, and time-saving electrical appliances.

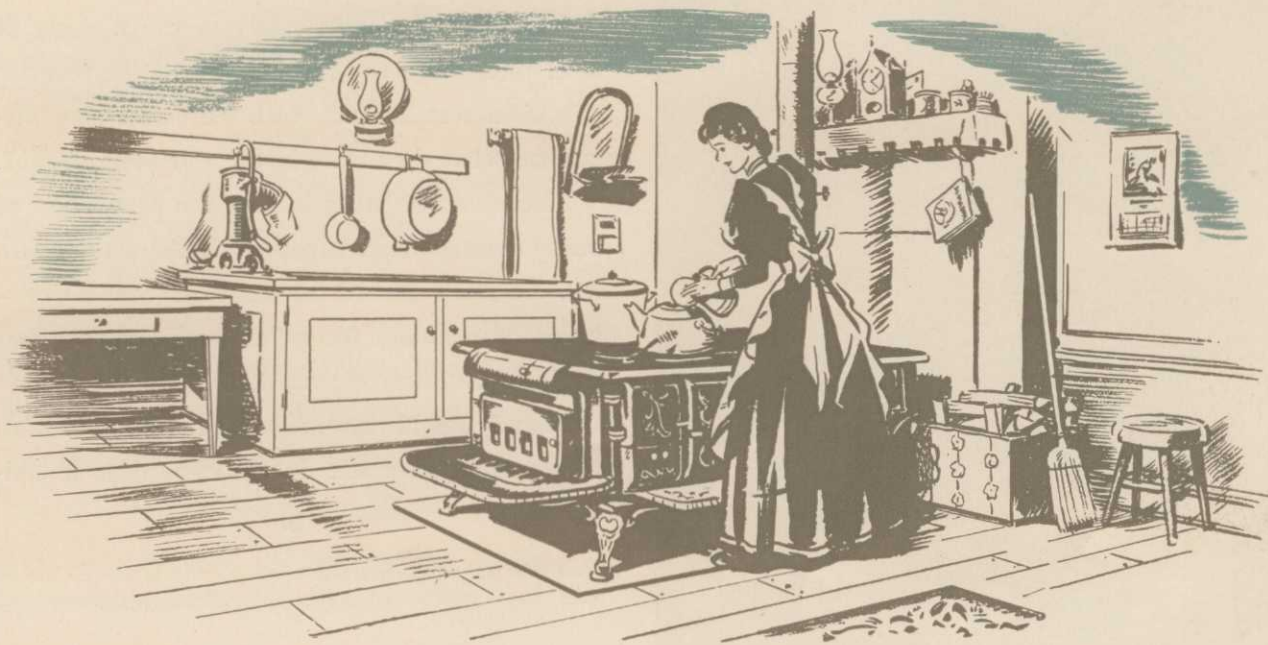
Answer to Depression: Keep Building

Through the three depression years which followed 1929 Inland invested thirty million dollars. Yet production fell off so sharply that Inland was forced to introduce staggered work and a shorter work week to keep as many as possible of its men employed.

To take care of its own, Inland revived the Fellowship Club which had operated in 1914 to help provide for many of the less fortunate families in the Inland community.

Into this new Fellowship Club fund went voluntary contributions from employees—three per cent of their salaries. Only one notice was issued announcing the reorganization of the club in those dark days of 1930, but more than 4,000 workers promptly joined. The company matched every dollar contributed by the employees, and in addition donated many tons of coal. There was no overhead expense connected with the distribution of this relief money; every cent went for relief.

Group insurance was made available to employees in 1930, the company paying part of the





The thin but sturdy coating of zinc on galvanized steel, here being thoroughly inspected, protects it from weather. Galvanized steel from Inland is in wide use in agricultural and industrial buildings and equipment.



premiums. Today more than 99 per cent of all Inland workers carry this insurance.

This concern with the welfare of Inland's men and women brought about the establishment, in 1936, of a clinic at the Indiana Harbor plant, the purpose of which was to protect and improve the health of Inland workers and their families. Everyone was asked to go to the clinic for a physical examination. No one was forced to. Although response was slow at first, by the end of the first two years more than 10,000 employees had gone through the clinic, and only 100 had refused. The work of the clinic has resulted, for example, in the transfer of men from jobs which might ultimately be dangerous for them, because of a hidden ailment, and has generally brought an improvement in the well-being of the employees.

Inland kept on stressing safety, too.

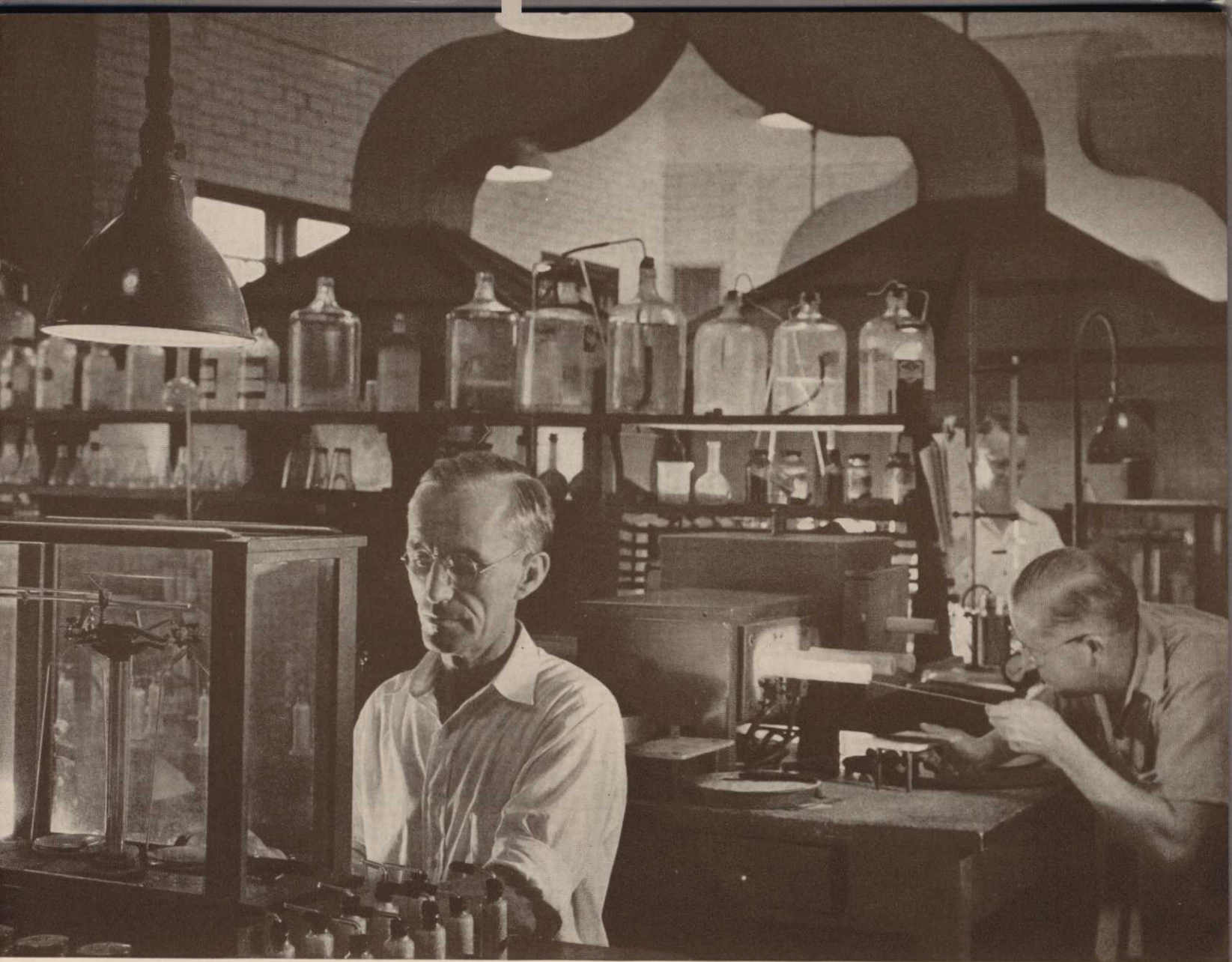
When the department of Safety, Sanitation, and Relief was organized in 1911, work in a steel mill was regarded as dangerous. It was. But the steel industry kept introducing new and safer methods and machinery. And the accident rate kept going down, until by the 1930's the steel industry was one of the safest of all.

Inland has brought safety to the making of steel until both the frequency and the severity of accidents at Indiana Harbor are now only one-twelfth what they were in the war year of 1917.

There's an organization for the promotion of safety among the larger steel plants of the country. Inland's record in accident prevention—based on accident frequency and severity—was the best in the group for 1942.

Inland has always encouraged employees to take part in athletics. In the early days at Chi-

Every sheet that leaves Inland must stand a series of rigid inspections before it can receive the Inland stamp of approval.

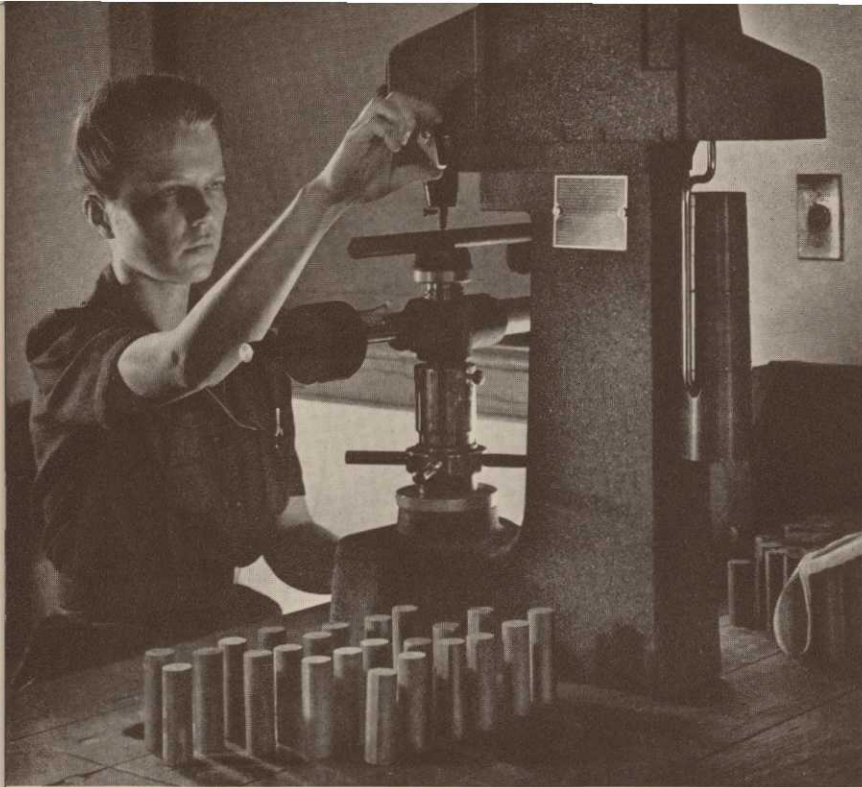


All guesswork is dispensed with in the making of steel at Inland. Constant analyses in Inland metallurgical laboratories keep check on every step in the making of every heat of steel. And research for new and better steels is a continuous job at Inland laboratories.

cago Heights, P. D. Block played second base on the first Inland-sponsored baseball team. This interest in athletics grew as the company grew, and in 1934 the Inland Athletic Association was organized. The association's teams compete in bowling, horseshoes, golf, baseball, softball, basketball, and tennis. They're good, too. Both the baseball and softball teams of the association won their respective championships in 1942-43 in the Calumet Region Industrial League. And

it takes a good-sized cabinet on the first floor of the Indiana Harbor office building to hold the trophies Inland's athletes have won. With the income from vending machines throughout the plant, the association is not only self-supporting, it supports other activities as well.

These were hectic years, the Thirties. The Bank Holiday. Confusion. Despair. The New Deal. The NRA, PWA, AAA, FDIC, SEC, CWA, NYA, WPA, CCC, FTC, TNEC. Repeal came to a land sick of prohibition. Japan started its conquest and its greater east-Asia co-prosperity sphere by invading Manchuria in 1931. It was a bold stroke. An international commis-



Testing the hardness of a sample of Inland steel by the Rockwell penetration method.

Steel sample being given impact test at Inland laboratory.



sion was appointed to investigate. Wiley Post flew around the world in a week, in an airplane that was already obsolete. Hitler came to power. Italy invaded Ethiopia. And got by with it. The League of Nations was a valuable source of information on the world trade in narcotics. Fear and uncertainty mounted in a depressed world which was being tinkered with, derided, bluffed, and bullied. More American families owned radios than owned bathtubs or toothbrushes. And radio was bringing to the American home the world of drama, of affairs, of education, of comedy, of music. The Nazis started to march. Spain held a dress rehearsal of the fury that was to come to the whole world. American industry, which was being told it couldn't manage itself, had perfected rayon, nylon, quick-frozen foods, polarized glass, induction heating, television, frequency modulation, better motor cars and trucks and tractors, faster airplanes, and the yo-yo.

In August, 1930, the old reliable 8"-11" merchant mill, which had served Inland for 22 years, ceased operating. To take its place Inland had built a new 10" continuous bar mill, housed in a building nearly half a mile long, and designed for straight line production. This installation was completely different from all other Inland mills, because for more precise synchronization 11 of the 15 roll stands were powered by individual electric motors, rather than driven from a central power source.

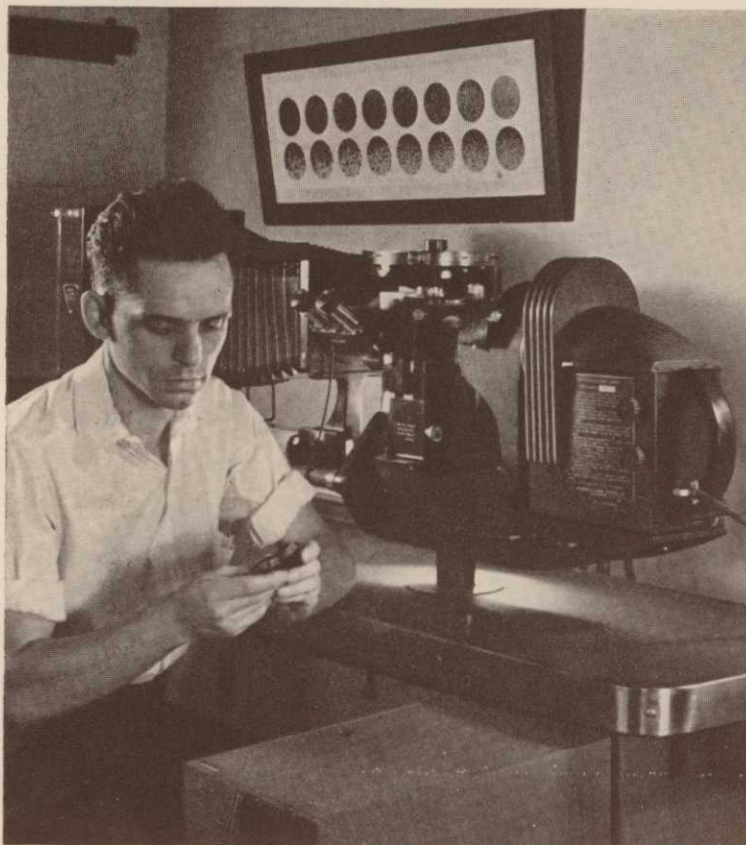
At the very bottom of the depression, in 1932, Inland completed a gigantic installation: the 76" continuous sheet and strip mill. Very few such mills had been built by the steel industry up to that time. And Inland's was the largest yet. Its buildings stretched lakeward on filled-in land for half a mile. Fiery steel could scoot through its ten giant stands of rolls, thinning



With the spectroscope, metallurgists detect presence and quantity of elements other than iron in samples rushed to laboratory from furnaces by pneumatic tube.

Photo-micrographic analysis discloses grain structure of steel sample.

Pouring test heat of special steel from small laboratory induction furnace.





from slab to ribbon, as fast as a man runs. It was built to roll—with hair-line precision—50,000 tons a month.

It took \$15,000,000 to build that mill. And that's a lot of money. It was a lot of money in 1932, when retrenchment was the fashion and the market for all the steel the big mill could roll wasn't in sight. But the mill was not built for 1932 alone. It was built for the future. And it was ready when the upturn came—ready to roll millions of tons of sheet for the revitalized automobile industry. And when war came, plates for the Navy and Maritime Commission began rolling from the mill at a rate far in excess of pre-war capacity.

The new mills—all the new capacity—led In-

An Inland subsidiary, Joseph T. Ryerson and Son, Inc., started as a small "iron store" in Chicago more than 100 years ago, is now the world's largest steel warehouse organization. By truck and train steel is quickly delivered from the complete stocks of Ryerson's ten-city network of steel-service plants to industries throughout the country.

land to search for facilities which would assure a steady market for Inland steel.

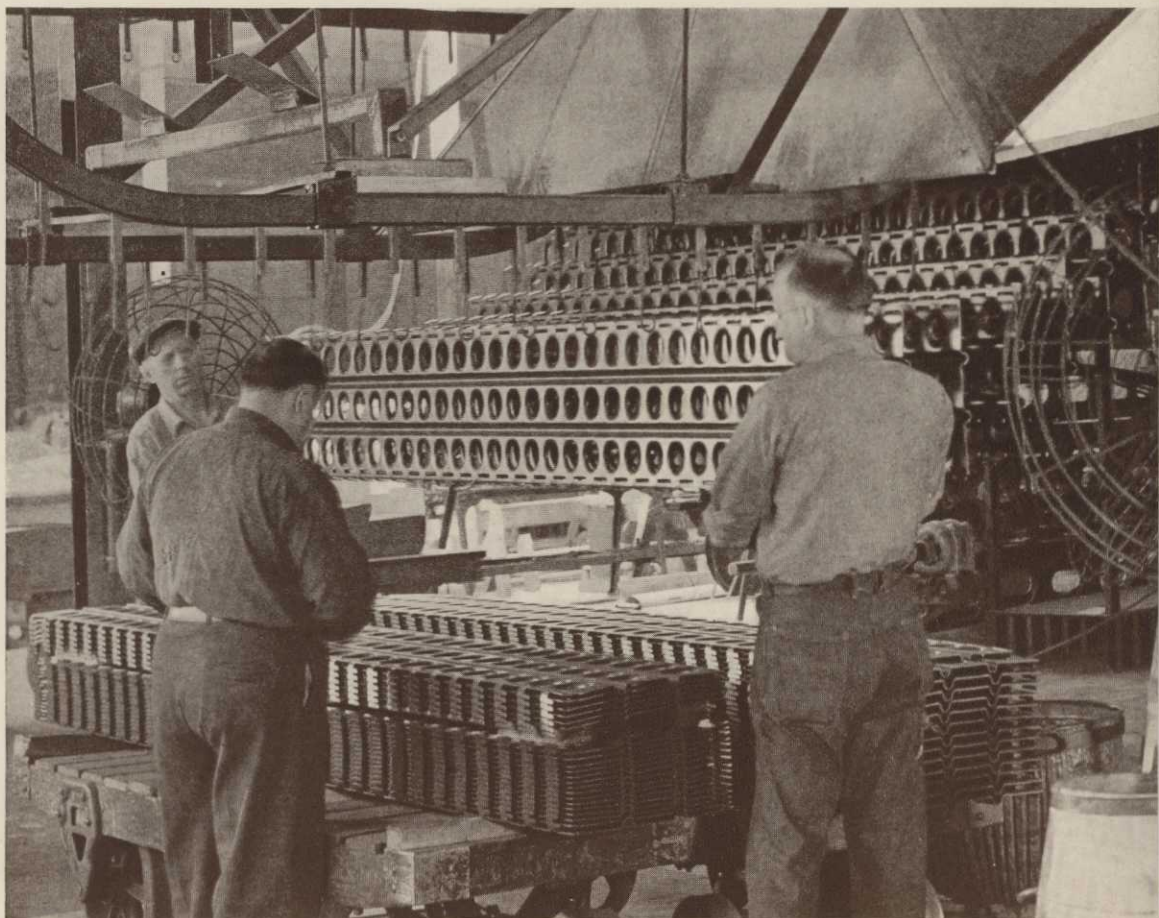
In 1935 Inland acquired Joseph T. Ryerson and Son, Inc., the world's largest steel warehouse organization. Ryerson had been a good customer of Inland. And Ryerson steel service had grown to be almost indispensable to users of steel. Because from Ryerson it was possible to get any of more than 10,000 kinds and sizes of steel, shipped immediately. Because of the service,



Inland Steel Container Co. is the world's largest manufacturer of steel pails and drums. Its products now are used by the Armed Forces for chemicals, paints, fuel, and food products.



Milcor Steel Co., acquired as a subsidiary by Inland in 1936, manufactures a wide variety of sheet metal products, principally for the construction industry. Now, of course, Milcor's production is devoted 100 per cent to the war effort. Steel landing mats for far-flung airfields are among Milcor's many wartime products.







In the first World War the maximum annual production of steel was 50,000,000 tons. In World War II America's production was increased to a total of 90,000,000 tons per year—providing greater protection for our fighting men.

because of the quality, and because of the variety of steel kept in stock, Ryerson had grown until by 1935 there were ten Ryerson warehouses serving major cities in the east and the industrial middle west. Ryerson customers could be assured of getting the kind of steel they wanted, where they wanted it, when they wanted it. This added to Inland's producing facilities a volume outlet for every kind of steel Inland could make. Edward L. Ryerson, who was head of the century-old firm, is today chairman of the Inland Board of Directors.

In 1936 Inland bought the Milcor Steel Company of Milwaukee, makers of a wide range of sheet metal products—such as metal lath, roofing and siding, furnace pipe, bake ovens, ventilators, eaves troughs and downspouts. Milcor, too, had

expanded, both in the volume of its production and in the territory it served. Milcor plants and warehouses in seven cities offered Inland a wide market for the products of its sheet rolling mills.

Then Inland acquired yet another new subsidiary, Wilson and Bennett Mfg. Company, now known as Inland Steel Container Company. With headquarters in Chicago and with plants in three other cities, this subsidiary makes pails and barrels in a variety of sizes, and special containers for food, affording Inland an outlet for its growing sheet production.

Meanwhile, the building program had kept on. A 44" continuous strip mill was added—another giant, with a capacity of 45,000 tons per month. A new blast furnace—Madeline No. 5—increased pig iron production by 1,000 tons per day, 59 new coke ovens were built, and five new open hearth furnaces increased steel making capacity by 18 per cent.

During these years the steel business was changing. It wasn't so much a matter of increased tonnage. The big change was in the demand for finer and finer steel—steel that was engineered from the blending of ores at the mine to the final rolling to meet rigid specifications. Because steel

Inland goes to war. Here are just a few of the wartime uses for steel from Inland: sheets and plates for ships—both combat and cargo—bombs, tanks, pipelines, landing mats; structural steel for the construction of war plants; rail steel for Army cots and barbed wire entanglement stakes; special steels—such as Hi-Steel and Ledloy—for gun carriages and shells. A government arsenal was enabled "to produce more and better guns than would otherwise have been possible" because Inland solved the problem of producing an important special quality gun-barrel steel on a quantity basis.



Injured employees at Inland's Indiana Harbor works are treated at the medical department located inside the plant. A wide range of services, from first aid to emergency surgery, is provided.

was taking on new jobs, more precise jobs. As the ranges of steel specifications kept getting narrower, the importance of the Inland metallurgical laboratories increased.

In these laboratories steel is subjected to constant analyses—both physical and chemical—while it is still in the making. In the old days an experienced steel man would squint at a heat and make a close guess as to its carbon content. There's no squinting and guessing any more. Metallurgy is exact. With precision instruments Inland metallurgists check samples from every step in the steel-making process. They work with Inland customers, too. When a particular kind

of steel is needed for a particular kind of job, Inland metallurgists write the recipe. They specify the ores to be used, the proportion of alloys, the rolling temperatures, the kind of heat-treating necessary. Their work is so important that there are now three metallurgists at Indiana Harbor for every Inland salesman.

They develop new steels, too—such as the famous Hi-Steel and Ledloy steels, used for exacting jobs in the ordnance of the United Nations.

When war came, Inland was ready . . . ready to break production records in providing steel for bombs and shells and tanks and planes and ships. But still Inland expanded.

Construction was started immediately on a sixth blast furnace, which was blown in late in 1942—the first to be completed in the Chicago

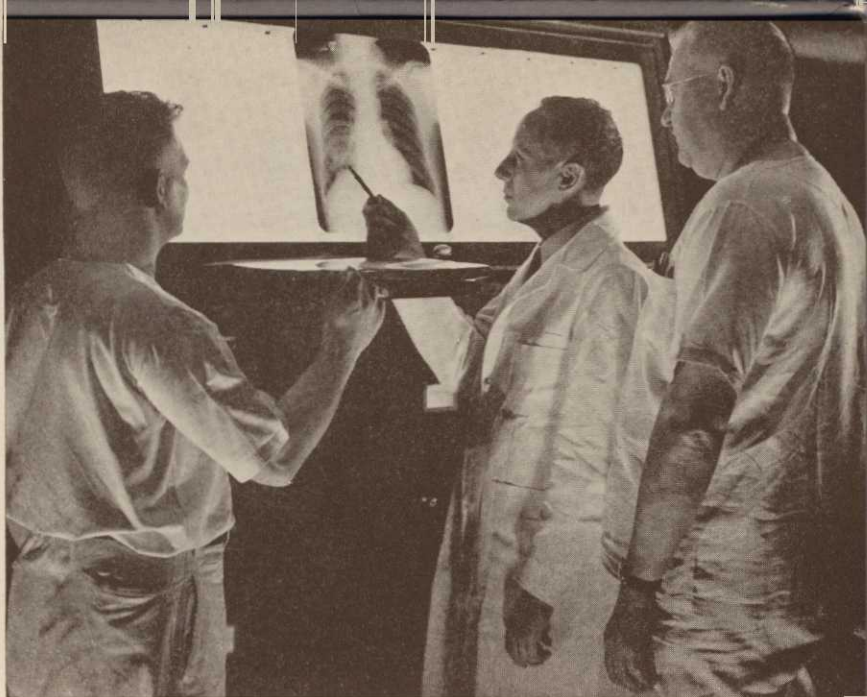
area after Pearl Harbor. It was built to provide added capacity and to replace the old No. 3 furnace, which was constructed during the last war and was reaching the limit of its service.

Up the canal from Plant No. 1 two more blast furnaces went up, and a battery of 146 coke ovens, built by Inland for the government's Defense Plant Corporation. And to conserve scarce tin, Inland installed an electrolytic tin-plating plant.

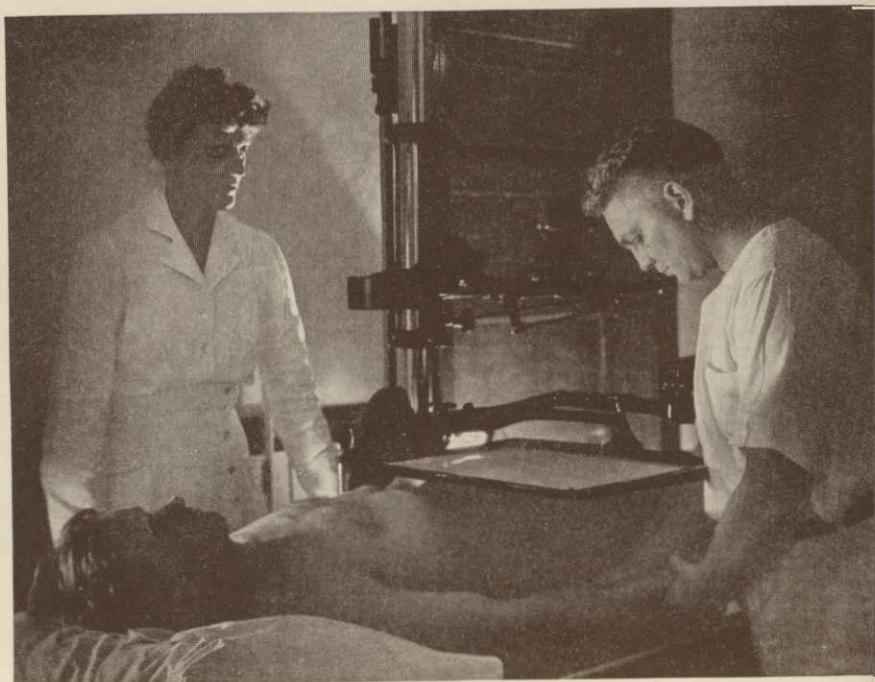
Today the Indiana Harbor plant alone covers 630 acres. Five blast furnaces, 273 coke ovens, and 36 open hearths feed steel to Inland's busy mills. Completely integrated, Inland controls its own sources of ore, coal, fluorspar, limestone; operates its own fleet of ore freighters. Total annual capacity is rated at 3,400,000 net tons of ingots, but Inland has been producing in excess of capacity since mid-1940. Annual payroll in 1942 was \$48,000,000—for 20,000 employees. Taxes in 1942 exceeded \$25,000,000.

But an inventory will not tell the size and strength of Inland; those can be told only in terms of what Inland is doing. And Inland is doing a big job . . . for all of Inland's mines, mills, machines, and men are dedicated to Victory.

Take the output of the coke ovens, the by-products, important for many uses in the chemical industry. Today those by-products are important because from them come millions of pounds of explosives, life-saving sulphur drugs.

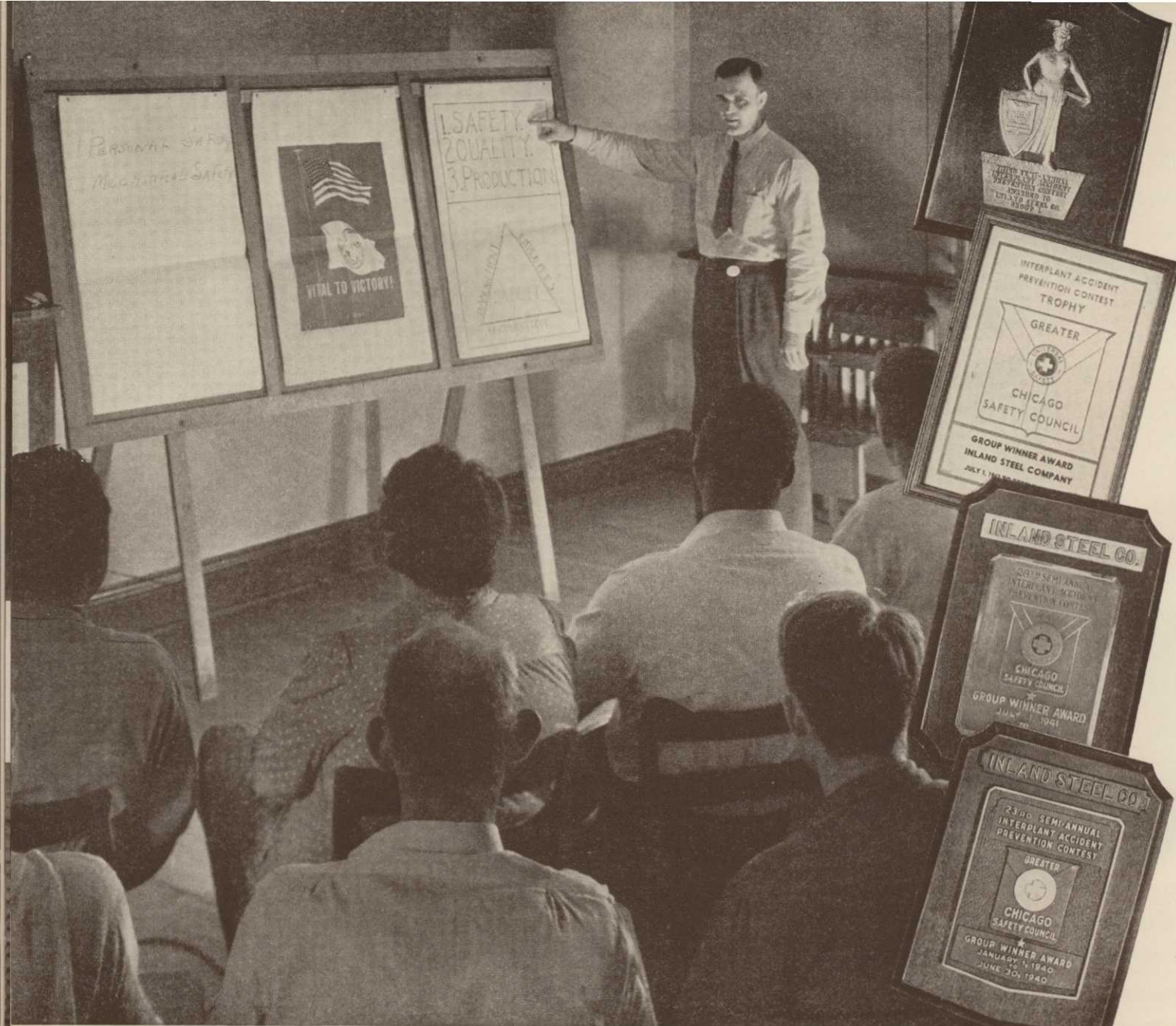


The medical department includes a diagnostic clinic. Workers are encouraged to report periodically for free, complete examinations which include X-ray studies.



Below: Technicians making a blood test in the completely equipped laboratory at the Inland clinic.





"Selling safety is just as important as selling steel" says Wilfred Sykes, Inland president. And Inland sells safety—with posters, signs, moving pictures and meetings, in which Union safety committees cooperate. Plaques were awarded Inland for being one of the safest companies in one of America's safest industries. For three years straight—1940, 1941, and 1942—Inland has been awarded an honor plaque by the Greater Chicago Area Safety Council.

Inland's mills produce sheets and plates, bars and shapes, for the fighting machinery of the Allies. And in quantity.

The men and women of Inland have pitched in with enthusiasm to help further the war effort. They have won the Minute Man Flag of the U. S. Treasury Department, because more

than 90 per cent of them are buying War Bonds on the Payroll Allotment Plan. In January, 1943, they were awarded the Army-Navy "E" for "high achievement in the production of war materiel." And in September, after breaking 125 production records in the first six months of the year, they were awarded the star for the "E" banner. In October, 1943, they won the coveted "M," awarded by the United States Maritime Commission for "outstanding achievement on vital wartime contracts."

They have organized a catastrophe unit to fight fire or explosion, air raid or sabotage. This group is so well organized and trained it

has been copied by the entire steel industry.

By the Fall of 1943, more than 5000 men and women from Inland had joined the armed services of the United States.

Inland employees are busy in civilian defense, growing Victory gardens, helping roll surgical dressings for the Red Cross, working with nutrition groups to help improve the general health of workers, sharing their cars. And twice, when a Red Cross mobile blood bank has visited the Indiana Harbor plant, Inland employees have set national records for blood donations.

And what of the future for Inland?

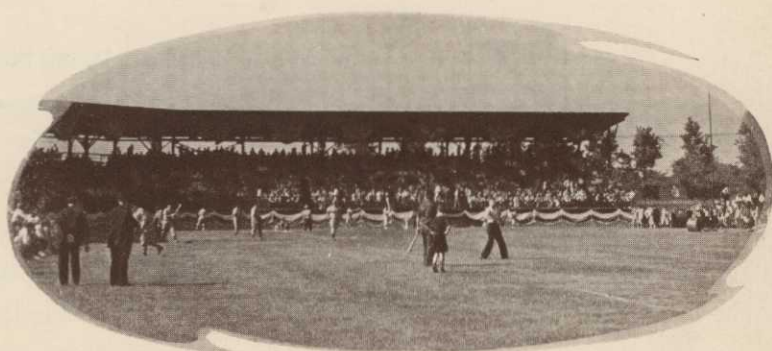
Until the war came, Inland production had tended toward the lighter steels. With its advanced machinery, Inland was equipped to roll not only bars and billets and plates, but lighter steel sheets by the thousands of tons.

Now Inland's sheet producing units are rolling out the heavier plates needed for Liberty and Victory ships, convoy vessels, combat tanks, and bombs; and the lighter flat rolled steels

Trophies won by Inland athletes adorn the first floor of the Indiana Harbor office building.



A few of the members of Inland's Red Cross unit who keep their evenings busy making surgical dressings for the use of the Armed Forces.



Above: Athletic field given by Inland to East Chicago in 1942 was named "E. J. Block Field" in honor of the popular Inland vice-president who died in 1939.

Below: Blood from Inland employees being deposited in the Red Cross blood bank. Twice the men and women of Inland have set national records for blood donations.





Scene at awarding of the Army-Navy "E", in January, 1943. In September, 1943, a star was added to the "E" pennant, and in October Inland won the Maritime Commission "M".



The demolition squad, with its completely equipped truck, is the spearhead of Inland's Plant Catastrophe Organization, fully prepared to fight fire and destruction, air raid or sabotage.

used for trucks, jeeps, landing mats, airplane parts, blitz cans, mess kits, food and storage containers.

Billet, bar, and structural mills are making steel for construction of war plants; for shells and guns; for barbed wire entanglement stakes, army cots, concrete fortification reinforcement.

Inland's production has gone to war.

But when peace returns, Inland will be ready. Ready to produce the steels needed for refrigerators, stoves, washing machines, automobiles, trucks, airplanes, railroads.

Because Inland has kept ahead with constant technological improvements, Inland will be ready for the pent-up demand for steel which will follow Victory.

The strength to which Inland has grown in 50 years has been made possible because of the

system which exists uniquely here in America. Some people call it the free enterprise system. Others call it the American way. Whatever it is termed, it is the system that offers everybody freedom of choice, freedom of opportunity. It is the system that rewards initiative and courage and enterprise and hard work. It is the system that encourages business, rather than stifles it. And therefore it is the system that results in more employment for more millions, under better conditions. It is the system that creates and produces and distributes more—that has brought better living to more people—than any other system on earth.

Inland is a product, and a part, of that system. It's a good system—one that has proved by the past that it possesses the strength needed for the future.



INLAND STEEL COMPANY

38 SOUTH DEARBORN STREET

Chicago 3, Illinois



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